

# MOTOR TREND

**WHO WILL WIN  
THE BIG "500"?**

By Sam Hanks

JUNE 1958 35¢

**A "Stock"  
DeSoto V8  
Challenges  
the HOT  
Offys!**

**Want 20 to  
37 Mpg?**

See tests on  
**LLOYD 600  
HILLMAN-MINX  
DYNA-PANHARD  
RAMBLER  
American**

**MT ROAD TEST  
Don Francisco Compares  
the Big and Little  
Hot-Performing MERCS**



Stolen from Research Library  
• PETERSEN PUBLISHING CO. •



**no drag  
on the rag**

**shine faster with  
all-new Carnu**

**Shines the deep-down color back  
better than ever before!**



New Johnson's Wax formula wipes off as easy as it wipes on. Actually cleans with less friction—speeds up the shine. All-new Carnu is easier on the finish, easier on you. Cleans as it shines—in one easy go!

JOHNSON'S WAX, "CARNU" AND "DEEP GLOSS" ARE  
REGISTERED TRADEMARKS OF S. C. JOHNSON & SON, INC.

(If your problems are gas waste, flooding, dying, hard starting and poor performance, it will pay you to read this Mileage Minder ad)

# NEW IMPROVED! MILEAGE MINDER

**WITH MAGNETIC TROUBLE TRAP  
SAVES GAS—IMPROVES  
POWER AND PERFORMANCE  
IN NEW OR OLD CAR!**

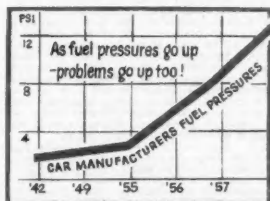
- Read Here How the New Improved Mileage Minder Unconditionally Guarantees More Power, Better Performance, Greater Gas Mileage.

Most of the troubles that plague modern cars are directly traceable to the fuel system. As motors have become more and more compact and complicated, the demands of the fuel system have become greater and greater. Fuel pumps and carburetors have also become more complicated and delicate. The fuel pump advances the gasoline from the gas tank to the carburetor in pulsating surges created by the cam action of the pump. In turn, the carburetor admits gasoline through a brass orifice, which is opened and closed by a steel needle, which is controlled by the action of a float-bowl.

## More Complex Cars ... More Problems

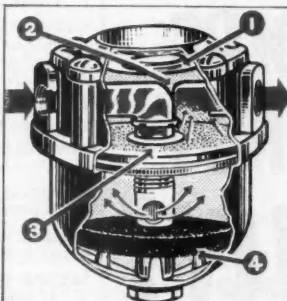
In early engines, when fuel pressures were low and engines far less complex, the problem was not nearly so serious because we simply didn't expect the same performance that we do now.

Now, however, automotive fuel systems have become extremely complex, expensive and as delicate as a Swiss watch. Fuel system pressures have increased to the point that many cars demand fuel pressures of six, seven and even eight pounds per inch, where before only two pounds or even less were required.



These extreme pressures are necessary for the performance of the engine, BUT what has happened is this: the fuel pump hammers the gasoline in pulsating surges, at pressures five or six times higher than before. The impact of these pressure thrusts has become so violent an audible knock is often heard.

Furthermore, modern engines demand absolutely clean gasoline — without mineral or metallic impurities—so that there can be no clogging of the carburetor.



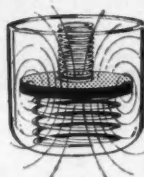
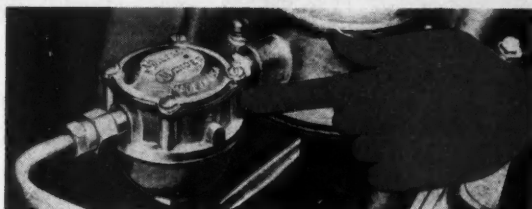
## New Mileage Minder Has The Answer

Mileage Minder is a combination pressure regulator, pulsation dampener and fuel purifier, which perfectly meets the conditions that are causing the trouble.

① Mileage Minder contains a dual neoprene diaphragm (U.S. Patent No. 2544289) which is spring-supported and acts as a pressure storage chamber; cushions the impact of the gasoline as it comes from the fuel pump; then passes fuel on to the carburetor in a smooth, even flow. Mileage Minder does not reduce fuel pressure. Instead it smooths it out at the proper pressure for finest and most economical performance.

② Mileage Minder's pressure chamber principle positively traps vapor-locking gasses, which cannot pass on through the fuel stream until condensed and liquefied.

③ Mileage Minder contains a sintered bronze fuel filter, which positively removes all dust, dirt and sand, even as fine as .003".



④ Each new Mileage Minder is equipped with a magnetic Trouble Trap (Patents applied for). This feature alone is worth its weight in gas savings. A powerful XH-297 ceramic magnet is positioned directly in the gas stream so that its magnetic field captures and holds all troublesome iron and steel oxides, weld chips, rust flakes, thread shavings or any ferrous metallic particles.

## Quick, Dramatic Results

The results are noticeable in your car at once. They are:

- Better performance, more power and pickup.
- Ends gas waste. Users report savings up to 6 m.p.g.
- Cures flooding, stalling, jerky acceleration, hard starting, gasping.
- Minimizes vapor lock and bad-smelling gas fumes.
- Does not reduce manufacturers' recommended pressures.

## MONEY SAVING NO RISK OFFER

Now it is possible for you to experience the benefits of Mileage Minder on your own car—on a money-back guaranteed basis. If you're not completely satisfied, just return Mileage Minder and your money will be cheerfully refunded. This guarantee applies whether you buy direct or from any service station, car dealer or garage.

If you ordered Mileage Minder and Trouble Trap separately, the cost would be \$8.90. Now you may order your Mileage Minder equipped with magnetic Trouble Trap at a significant saving... just \$7.95, complete with fittings for your car. Mileage Minder is easily installed by anyone in just a few minutes, with the simplest of tools.

New Mileage Minder has a compact metal bowl, break-proof and heat-proof. Cover is brilliantly chrome plated, the body golden dichromate.

Remember — Mileage Minder pays for itself in gas savings and improved performance, or your money refunded.

At your automotive supplier or use the money-saving coupon in this ad.

**Today! . . . Mail This Money-Saving  
No-Risk COUPON!**



**Paser Manufacturing Co.**  
333 MT6 Turk Street  
San Francisco 2, California

Please send Mileage Minder with magnetic Trouble Trap, with satisfaction guaranteed. (Quickly pays for itself or money refunded.)

I enclose cash ☐ check ☐ money order ☐ for **\$7.95**  
(Special, quick-action offer includes postage)

Name

Address

City  State

Make, year and model of car



**PROTO'S**

# GOLDEN KNURL HOLDS EXACT JAW OPENINGS AUTOMATICALLY!

**NO BUTTONS ... NO LEVERS ... NO GADGETS**

Available in FIVE popular sizes

704L 706L 708L 710L 712L  
4", 6", 8", 10" & 12"

Use it like an ordinary "adjustable". Merely turn Golden Knurl, jaws click automatically into desired opening ... even non-standard and foreign sizes. Jaws won't work loose. Drop-forged, fine Protoloy steel. Thin head for tight places. Highly polished, chrome plated. Job tested and approved by mechanics, coast to coast. Try the Click-Stop now!

*Federal Specifications: GGG-W-631A, Type I*



2209 Santa Fe Avenue  
Los Angeles 54, California

ANOTHER REASON YOU'LL  
**PREFER  
PROTO  
PROFESSIONAL  
WRENCHES**

**JUNE 1958**

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**NEXT MONTH**

*Best Buys in Used Cars*

*Testing the Economy Sixes*

*"My Greatest Thrill"—Moss*

# MOTOR TREND



## THE COVER:

Tony Capanna's De-Soto engine which will run at Indy. Crew members (l to r): Dean Murray, who did chassis-work, Willie Garner of Wil-Cap, and Tony. Below is one of Mercs tested on page 36. Ektachrome photos by Bob D'Olive.

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**SAM HANKS, 1957 Indianapolis Winner, says:**

**"I'd like a NATIONAL SCHOOLS  
trained mechanic on my crew  
...any employer would!"**

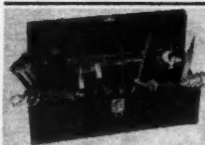
Sam Hanks holds American Closed Course record (182.5 M.P.H.); also many state and national racing titles.



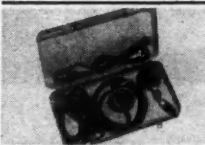
**MASTER ALL ENGINES  
AT HOME IN YOUR SPARE TIME  
NATIONAL SCHOOLS  
AUTO MECHANICS & DIESEL  
COURSE  
INCLUDING FUEL INJECTION**

"I've worked alongside National Schools-trained mechanics," reports Sam Hanks. "They're tops, because they get all-around training, and they know how to repair fast and right the first time. No wonder National Schools graduates command top pay."

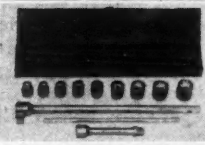
### YOU GET AND KEEP ALL THIS EQUIPMENT



Complete set of professional tools and All-Metal Tool Box. Same top-quality equipment used by expert mechanics everywhere. Use them, display them proudly.



"Motor Analyzing Set" contains Standard Engine Vacuum Fuel Pump Tester, Remote Starter Switch, Modern Timing Light, Standard Compression Tester. Plus compact carrying case & instructions.



Top-quality Socket Wrench with Fittings. Real professional tools you'll use during your lifetime career in repairing all types of engines, from foreign cars to big diesel jobs.

**COURSE COVERS:** all engines, fuel injection, automatic transmissions, overhauling, customizing, servicing and maintenance.

**PREPARES YOU FOR:** auto mechanic jobs, airplane mechanics, farm machinery repair, all diesel jobs, experimental labs, government work, engine specialist and all-around mechanic.

Earn as you learn men! We'll show you how. Streamlined lessons, diagrams, manuals, latest equipment, practical methods prepare you for hundreds of jobs in scores of industries. Free Placement Assistance.



**RESIDENT TRAINING AT LOS ANGELES!** If you wish to take Resident Training at Los Angeles, in our big, modern Shops & Labs, check special box in coupon for full information.

**APPROVED FOR GI TRAINING  
NATIONAL SCHOOLS  
Los Angeles 37, California**

### NATIONAL SCHOOLS

TECHNICAL TRADE TRAINING SINCE 1905  
LOS ANGELES 37, CALIFORNIA

**MAIL NOW TO NATIONAL SCHOOLS**  
Dept. DW-68, 4000 S. Figueroa St.  
Los Angeles 37, Calif.

Send for FREE Auto Diesel Opportunity Book and Sample Lesson

NAME \_\_\_\_\_ AGE \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

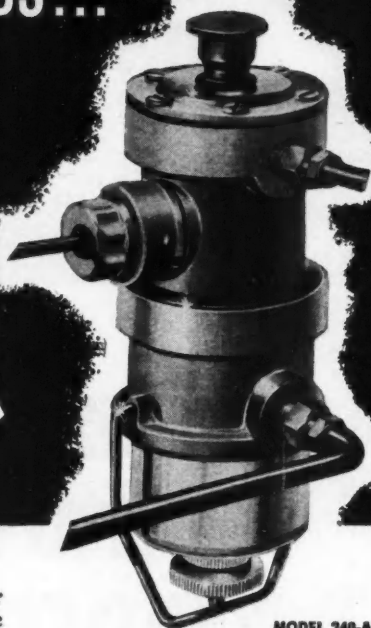
☐ Check if interested ONLY in Resident School Training at Los Angeles

VETERANS Give date of discharge \_\_\_\_\_

# New Stewart-Warner Electric Fuel Pump ASSURES POSITIVE FUEL FLOW AT ALL SPEEDS...

## ALL-YEAR 'ROUND!

**stops  
vapor  
lock!**



MODEL 240-A

From the moment you turn your key, Stewart-Warner's new electric fuel pump delivers a steady, uninterrupted flow of gas to your motor. Ends vapor lock due to abrupt changes in temperature, gives positive starting and more reliable performance all year 'round.

Operates independently of engine. Completely automatic; operates only when needed. Either 6- or 12-volt model.

### Only Stewart-Warner Offers All These Advantages!

**Highest delivery rate!** Up to 60 gallons per hour, with oversize piston, coil and power spring.

**Built-in fuel filter!** Extra-large reservoir and oversize filter element.

**Easy wiring and installation!** Battery can be either positive or negative ground.

**Adjustable pressure!** Pump can be easily adjusted from 1 PSI to 7½ PSI to give exact shut-off pressure required by any carburetor.

**Built-in automatic pressure regulator!** Prevents flooding and starving. Maintains desired pressure at carburetor... gives smooth, steady fuel supply... eliminates surging.

### STEWART-WARNER GAUGES

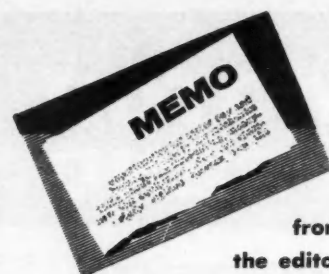
A complete line of heavy-duty gauges for custom panels or independent mountings. Dust-tight, weather-proof. Corrosion-resistant finish. Large, easy-to-read dials. Vacuum gauges, ammeters, oil pressure gauges, water temperature gauges.



**FREE CATALOG!** Visit your speed shop for the new Stewart-Warner catalog of gauges for custom cars. Or write to Stewart-Warner Corporation, Instrument Division, 1840 Diversey Parkway, Chicago 14, Illinois.



**INSTRUMENT DIVISION**  
**STEWART-WARNER**  
**CORPORATION**



from  
the editor

**WE LIKE TO THINK** that when we make changes or improvements in **MOTOR TREND** (like the larger, more legible type), they don't go unnoticed, yet we don't like to constantly draw them to your attention. We'd rather have your unbiased reactions.

Two months ago we had but eight pages of rotogravure (that green package in the center of the magazine). The following month we switched to 16, and this month we have added eight more. Roto, in the estimation of many publishers, is the best way of retaining the sharpness of good photographs.

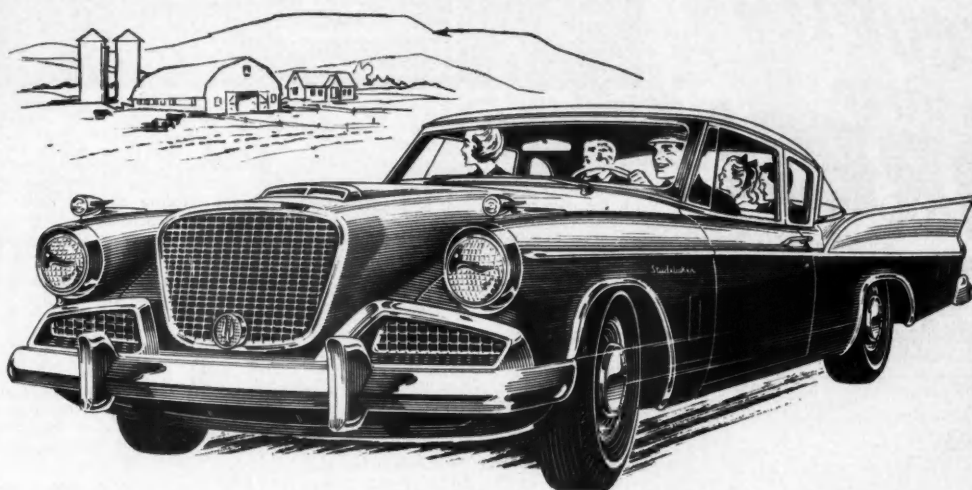
As you'll see from looking at page 35, we're using it to reproduce another type of illustration—a charcoal rendering of Fangio's great performance in winning the 1957 German Grand Prix at Nurburgring. This was done by an artist we feel to be one of the top automotive illustrators, Carlo Demand. You don't have to be content with just this one illustration, either. Each month you can look forward to this *and* an accompanying excitement-filled story told by one of racing's great. This month's story, for example, is one of the best racing accounts we've ever read.

The rest of the roto section will be largely, if not entirely, devoted to road tests of American and foreign products. We have been taken to task lately by some vociferous and short-sighted readers who do not agree with our plan to give you more reports on the imports. But we say, "Why not?" If you want to be knowledgeable about *all* cars, don't you have to be familiar with *all* of them? They're here. They're news. They bear reporting. And that they'll get—from our European Editor Gordon Wilkins, German correspondent Günther Molter, and Italian correspondent Johnny Lurani.

Another change you've probably noted is that you're getting the most complete American road test reports you'll find anywhere.

To help us to better interpret Detroit and its many-faceted problems, we've hired Bill Callahan as our Detroit Editor (replacing free-lancing Joe Wherry). "Cal" is no stranger to Detroit or the auto industry. He was technical and later managing editor of *Automotive News*, worked for GM's public relations department, was associate editor of *MoToR* magazine, then for six years was editor of the now-defunct *Motorsport* magazine. For the past year he has been our Detroit Ad Manager.

*Post Warner*



Seats for the family, sport for the driver in the

## Studebaker SILVER HAWK V-8

with 4-barrel carburetor... for only **\$2373\***

The Studebaker Silver Hawk V-8 with 4-barrel carburetor is a car that lets you have your cake and eat it, too. What we mean is this: here is a car with Italian styling influence readily apparent.

It seats five in comfort and by dint of variable rate coil springs and a very soundly engineered suspension system, handles far better than you would expect. Particularly with its optional non-slip differential!

The Silver Hawk V-8 weighs only about 3200 pounds and puts out, with

4-barrel carburetor, 305 ft.-lbs. of torque at a desirably low 3000 rpm. Maximum hp is 225 at 4500 rpm. So, performance is considerable. Braking power is excellent, too, because of finned brake drums.

The Silver Hawk V-8 is an *unusual value* at its price because it's rugged, it's always sport behind the wheel and it allows your family to join you, whether motoring for sport or function.

See your Studebaker-Packard dealer, with your family, for a lively demonstration.



**Studebaker-Packard**  
CORPORATION

*Where pride of Workmanship comes first!*

\*Plus local taxes, if any, and transportation

# DRIVE IN SAFETY

PUT  
**SECURITY**  
IN YOUR  
**TIRES!**

WITH  
**SECURITY**  
AUTO TIRE SAFETY SEAL

Now Guarantee Positive Protection

**AGAINST:**



THIS AMAZING COMPOUND IS INJECTED INTO THE VALVE STEM OF INNER TUBES AND TUBELESS TIRES WITH AN ORDINARY AIR HOSE AND INSTANTLY SEALS CUTS, SLOW LEAKS, PUNCTURES, TUBE PINCHES. WHEN THE INNER TUBE OR TUBELESS TIRE IS PIERCED BY A NAIL, GLASS OR ANY SHARP OBJECT SUPER SECURITY IMMEDIATELY ADHERES TO THE PUNCTURED AREA PREVENTING THE ESCAPE OF AIR.

**EASY—SAFE**  
SECURITIZE  
YOUR OWN  
TIRES



4 CANS & DISPENSER.....

**DO-IT-YOURSELF**  
SECURITY PUNCTURE PROOFING  
TIRE KIT  
**\$9.95**

MOST PUNCTURE-PROOF TIRES COST CLOSE TO \$100.00 PER TIRE. (THAT'S ABOUT \$400.00 PER SET.) NOW YOU CAN GET TRUE PUNCTURE PROOF PROTECTION FOR YOUR CAR—ALL FOUR TIRES—FOR ONLY \$9.95 PPD.

**Territories Open for Qualified Distributors and Dealers.**

**WRITE TODAY!**

INSURED BY THE WORLD'S LARGEST INSURANCE CO. POSITIVE MONEY-BACK GUARANTEE  
SECURITY FEATURES: Low Cost puncture protection... Extra Mileage plus economy... Added safety at high speeds... Preserves inner tubes—Stays soft inside tube and tire—Prevents tire overheating. Does not affect balanced tires.

**SECURITY SALES CO., Dept. TM-TR.**  
1893 Braxton Ave., Rm. 246, L.A. 24, Calif.

- ☐ Please rush me "SECURITY" Do-It-Yourself kit at \$9.95 ppd. Send check, cash or money order. C.O.D. accepted.
- ☐ Send additional 4 cans for "extra" car at \$1.00 saving. Enclose check for \$18.90 ppd.
- ☐ Please rush Free Sales Information:
- ☐ I'm a Auto Parts Distributor.
- ☐ I'm a Factory Representative.
- ☐ I'm a Dealer.

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_



## BORN TOO SOON?

Dear Sir:

With the increased interest in foreign and small economy cars, I am wondering if our own Crosley, Willys, Henry J and Hudson Jet were born too soon. I believe they would be very successful if they were being manufactured at the present time. The Hudson Jet and the last Willys, in particular, would no doubt give the now popular foreign cars a run for their money.

Charles Seithers

Portsmouth, Ohio

## CORVETTE SEAT BELTS

Dear Sirs:

In Sam Hanks' tests of four Corvettes in your March issue, page 18, you quote Hanks: "I don't know whether these (seat belts) were standard or not." (They're not. Editor.)

I wish to advise you that seat belts on Corvettes are standard. Just thought this matter should be clarified, as I know your magazine is widely read.

D. D. Moore, Vice-President Portland, Ore.  
A. B. Smith Chevrolet Co.

## WILL COME OFF

Gentlemen:

In reading the February issue of MOTOR TREND, we found one particularly interesting question and answer in your Service Section, headed "Won't Come Off." It describes a car with an aluminum head which has resisted all efforts to remove. Your answer specifies that the studs be soaked with plenty of penetrating oil.

Many years ago our product, Liquid Wrench, was developed specifically for that purpose. We've never yet heard of an aluminum head which would not come off easily when Liquid Wrench was used.

D. Hoffman, General Sales Manager  
Radiator Specialty Co. Charlotte, N.C.

## WHAT RECESSION?

Dear Mr. Woron:

What's all this talk about a recession? Our new Chevrolet automobile sales for the month of March, 1958, are up 368 per cent over 1957.

"Sunny" Stein Philadelphia, Pa.  
Anders & Jervis Chevrolet Co.

## IN DEFENSE OF GAUGES

Gentlemen:

Quoting William Carroll on the '58 Pontiac (Feb. '58 MT): "Instruments and Controls—Lots of drivers will sing of happy days when they notice that Pontiac uses instruments instead of flashing lights to indicate engine condition. Personally I don't see what all the fuss is about. Both methods work."

My contention, and the consensus of others, is that flashing lights are no good. A low charging rate insufficient to build up a weak battery will keep the light out. A low oil pressure which may cause damage to the engine under hard driving conditions will keep the light out.

Gauges have saved two engines for me when leaking lines caused low oil pressure. A high charging rate indicated by gauges warned that something was wrong and kept me from burning up batteries and generators. Flashing lights would not have indicated these deficiencies. When the lights start flashing the damage has been done  
Emmett J. Gossett  
Atlanta, Ga.

## UNWANTED SPACE ROBBER

Dear Sir:

I am a former Auburn-Cord owner. One outstanding feature I remember about the Cord was the absence of the driveshaft tunnel in the center of the car, made possible by the front-wheel drive.

Will the present industry ever get rid of this conspicuous space robber in the body of every American car? If you own a 1950 or later car, the center of your car is almost useless because of this ever-increasing mound. Each year the new models get lower, and the driveshaft tunnel gets higher. The driveshaft no longer runs under the car—it runs through it!

Roy Van Alstyne

Puyallup, Wash.

## IT'S THE WORKMANSHIP!

Sirs:

You comment on the importation of foreign cars, in particular GM's Vauxhall and Opel. You give two reasons for Americans buying foreign cars—namely, economy and snob-appeal. The almost universal mention of these two reasons, and only these two, by many periodicals is misleading.

There are other reasons. One in particular appeals to many of my friends, who are engineers—and that is the fine craftsmanship so evident in most of the imports. After my experience of poorly fitting doors, door handles that fall off, sloppy upholstery jobs, rattles and creaks in the recent American cars I have owned or driven, this item of craftsmanship could be the decisive factor in making my next car an import.

If GM intends to gaudy up the Vauxhall and Opel at the expense of good sound workmanship, they might as well leave them in Europe.

William M. Donaldson Penns Grove, N. J.

## CAR DESIGN CONTEST DEADLINE IS JUNE 1

You still have a few days left to enter the MOTOR TREND Design Contest. As outlined in the official rules and regulations on page 42, Mar. '58 MT, awards will include \$500 in cash to the first prize winner; in addition, first and second prize winners may receive a car, subject to the conditions in the official rules.



Top left—Morris '1000' Convertible

In foreground—Morris '1000' 2-door Sedan

## Setting the pace for the Joneses!

Today the new Morris '1000' is creating more and more excitement among smart, economy-minded neighbors all over America.

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**MORRIS**  
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WHY

Automotive engineers have discovered that the corrosive sulphuric acid produced by fuel combustion is the greatest cause of engine wear. Your car engine produces an average five gallons of powerful sulphuric acid annually! It eats away at smooth metal surfaces, forms sludge and carbon, causing gradual power loss and increased gas and oil consumption.

**FOR A CLEANER, MORE EFFICIENT ENGINE** • Now you can prevent this damaging acid action with a simple, inexpensive crankcase drain plug—the new REACTOR PLUG. The REACTOR PLUG embodies a metal catalyst which destroys all engine acids!

The REACTOR PLUG also features a powerful, permanent Magnetic Attractor which traps damaging metal particles—filings, shavings, chips normally resulting from engine operation.

**SAVES GAS, OIL AND REPAIRS** • With acids and metal abrasives removed from the oil, your engine runs smoother and more efficiently for thousands of extra, trouble-free miles. Sludge, varnish and carbon deposits caused by acids do not form around piston rings, valves, spark plugs and other parts. You enjoy greater gasoline economy and increased horsepower, plus savings on engine repairs and overhauls. A REACTOR PLUG can save you literally hundreds of dollars during the life of your car or truck!

## Check These Reactor Plug Advantages

- Destroys engine acids
- Sintered G.E. Alnico Magnet traps microscopic "wild" metal particles
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- Increases gasoline mileage
- Adds thousands of trouble-free miles to engine life
- Makes oil usable longer
- Saves engine repairs and overhauls
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- Easily installed in 30 seconds when oil is changed

## MONEY BACK GUARANTEE

Install a REACTOR PLUG at your next oil change. Try it at least 30 days (or until your following oil change) If you don't notice the difference in engine power and all-around performance... if you aren't completely satisfied, return your REACTOR PLUG for a full refund.

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[MAKE, MODEL, YEAR OF CAR (S)]

REACTOR DRAIN PLUG COMPANY  
601 S. VERMONT AVE., LOS ANGELES 5, CALIF.



"A device which enables the driver to fit his shock absorber action to road conditions by adjusting a dial on the dash will be standard on some cars in 1959."

**TRUE AND FALSE**—A major manufacturer of shock absorbers who supplies several companies in the industry with such equipment has developed a shock absorber which is electrically controlled from the dash. Normal practice is to offer such devices as optional equipment to test their acceptance by the public. It could, however, be available on such cars as Lincoln, Edsel, and Thunderbird as standard.

"Horsepower will be retained at present levels, or reduced in 1959 cars."

**FALSE**—Accident statistics during the past few years have shown that, despite much criticism of higher horsepower, accident incidence and fatalities have declined as cars were made more responsive to driver commands. Buick, reportedly, is currently testing an engine which may be available in 1959 models. Under test it has put out 480 hp. It is unique in that the end thrust is taken by the center main bearing.

"Chevrolet will start assembly of a new small car by January 1, 1959."

**POSSIBLE BUT IMPROBABLE**—This story was reported in Detroit newspapers and may have been picked up nationally. The inconclusive Chevrolet statement in answer to these published reports pointed out that the plant in discussion was now used for the assembly of trucks and was closed only for extensive modification and expansion. It did not directly deny that it would be used to produce a small car.

"The automotive industry will rescind its recent agreement to refrain from advertising racing victories and performance of its cars in the near future."

**FALSE**—This agreement was entered into with the thought that advertising car prowess might encourage owners of winning makes to indulge in competition on the highways. Individual producers, however, feel that race tracks offer the most direct means of proving the performance and endurance qualities of their products. While the agreement will not be formally rescinded, its terms may be broadly interpreted so as to permit participation in competitive events.



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**FENTON** AT LEADING DEALERS!

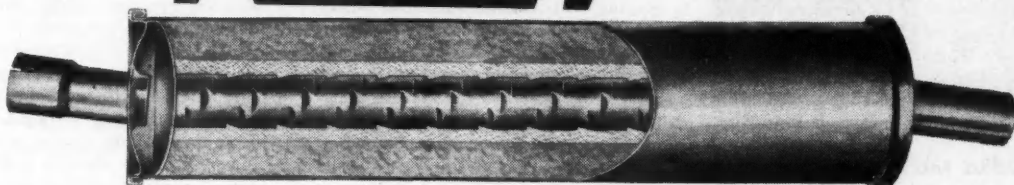
**ALABAMA**  
BIRMINGHAM Acme Auto Supply, 2330 3rd Ave., No.  
BIRMINGHAM Rocco & Cheaters, 316 First Ave. N. E.  
**ARIZONA**  
MESA—Eastside Auto Parts, 2025 East Washington  
PHOENIX—Eastside Auto Parts, 2025 East Washington  
**CALIFORNIA**  
GLENDAL—Mark Allen's Muffler City, Valley Auto Access-  
ories, 6235 San Fernando Road  
SAN FRANCISCO Gene Lockhart, 340 10th St.  
SAN JOSE—Kragen's Auto Supply, 138 E. Santa Clara St.  
SANTA MONICA—Quincy Auto Supply, 3003 Wilshire Blvd.  
GRAND AUTO STORES Oakland, Alameda, Hayward, Berkeley,  
San Leandro, Richmond, Vallejo, San Jose, Redwood City,  
San Rafael  
**CANADA**  
NEW WESTMINSTER, B.C. Western Accessories,  
315 Columbia St.  
VICTORIA, B.C.—Dickinson & Dunn, 1620 Blanshard Street  
**COLORADO**  
COLORADO SPRINGS Empire Auto Supply, 410 W. Colorado  
DENVER—Jah's Auto Parts, 775 Champa Street  
LONGMONT—Charles M. Harris Auto Parts, 919-925 Main  
**CONNECTICUT**  
HARTFORD—Katak Stores, 323 Albany Avenue  
NEW HAVEN—Walters Automotive Distributors, "Warehouse  
Distributors", 38 Canal Street  
**ILLINOIS**  
CHICAGO—Admiral Auto Stores, 5958 W. Addison  
CHICAGO—Ray Erickson Supply, 300 W. Irving Pk. Blvd.  
CHICAGO—Bill Van Esser, 3307 W. Irving Park Blvd.  
CHICAGO—Warsawsky and Company, 1900 S. State St.  
DANVILLE—Fagen Auto Parts, 30 South Hazel Street  
DECATUR—Merry Randolph Motor Supply, 304 E. Wood Street  
**INDIANA**  
FORT WAYNE—Holly Distributing Co., RFD 7, Hesse Cassel Rd.  
GARY—C & L Auto Supply, 3888 Broadway  
INDIANAPOLIS—Washington Auto Parts, 2113 E. Washington  
**IOWA**  
CEDAR RAPIDS—Rapport Auto Parts, Inc., 630 2nd Ave., S.E.  
DAVENPORT—Strum Auto Supply, 413-15 West Third St.  
**KANSAS**  
LAWRENCE—Pippert's Automotive Parts, 211 E. 8th Street  
SALINA—Salina Spring & Axle Service, 672 So. Broadway  
TOPEKA—Gregg Tire Company, 300 W. 6th Street  
WICHITA—Phipps & Sons, 3036 So. Broadway  
**KENTUCKY**  
CORBIN—Owens Custom Shop, 302 19th Street  
**LOUISIANA**  
BATON ROUGE—Marks Seat Cover Center, 1917 Scenic Hwy.  
BATON ROUGE—Muffler Mart, 419 N. 19th Street  
BATON ROUGE—Muffler Shop, 4085 Florida, 3232 Plank  
LAKE CHARLES—Marks Seat Cov. Ctr., 2204 Ryan & 610 Broad  
NEW ORLEANS—Late Model Auto Parts, 2045 Poydras Street  
**MASSACHUSETTS**  
W. SPRINGFIELD—May's Auto Supply, 229 Memorial Ave.  
**MICHIGAN**  
DETROIT—Great Western Auto Parts, 15821 Grand River  
ROSELAND—United Auto Parts, 30712 Gratiot Ave.  
**MINNESOTA**  
MINNEAPOLIS—The Big Wheel Auto Stores, 1418 E. Lake St.  
**MISSOURI**  
KANSAS CITY—Sterling Tire & Supply Co.,  
600 E. 31st St. & 3322 Truman Rd.  
ST. LOUIS—County Auto Parts, 6910 Easton Avenue  
**NEW JERSEY**  
CAMDEN—Rom Auto Supply, Cor. 22nd & Federal Streets  
PATRICKSON—House-Of-Chrome, 187 Paterson Street  
**NEW MEXICO**  
ALBUQUERQUE—Ace Auto Supply, 1513 South Fourth St.  
**NORTH CAROLINA**  
ASHEVILLE—Eddie Joyner, Route 4, Emma Road  
**OHIO**  
CLEVELAND—United Home & Auto Supply, 12524-26 St. Clair  
HAMILTON—Rose Auto Supply, 411 S. Second Street  
**OKLAHOMA**  
OKLAHOMA CITY—Champion Auto Supply Company,  
"Warehouse Distributors", 1341-43 West Main Street  
**OREGON**  
EUGENE—Pacific Auto Supply, 44 W. 10th  
PORTLAND—Checkerboard Muffler, 2811 N.E. Union  
PORTLAND—Coast Auto Store, 118 N.W. Broadway  
PORTLAND—General Automotive Supply, 302 N. W. 6th  
**PENNSYLVANIA**  
HARRISBURG—Chelise Auto Parts, 26 N. Cameron  
PHILADELPHIA—N. R. Sales Company, "Warehouse  
Distributors", 1204 West Girard Avenue  
READING—Seward's Speed Shop, 434 N. 6th  
**TEXAS**  
AUSTIN—House of Seat Covers & Mufflers, 10th & Lamar  
CORPUS CHRISTI—Muffler Shop, 4510 Ayers &  
723 N. Brownlee  
DALLAS—Marks Seat Cover King, 1800 Greenville Avenue  
DENVER—Prestley Auto Parts, 905 S. Crockett  
FORT WORTH—Kragen Auto Supply, 5 Stores to Serve You  
HOUSTON—Warren Auto Supply, 5721 Humble Road  
PLAINVIEW—Reed Wrecking Co., 407 Columbia Street  
**WASHINGTON**  
BELLINGHAM—Gordon's Auto Parts, 929 State Street  
KELSO—Pacific Enterprises, 405 Allen  
MT. VERNON—Gordon's Auto Parts, Fourth & Fir  
SEATTLE—Northwest Auto Supply, 410 Elliott W.  
SEATTLE—Schuck's Auto Supply, 7 Stores to Serve You  
SPOKANE—Earland Auto Supply Co., N. 2622 Division  
VANCOUVER—Pence Auto, 5925 Main St.

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# SPOTLIGHT ON

# DETROIT

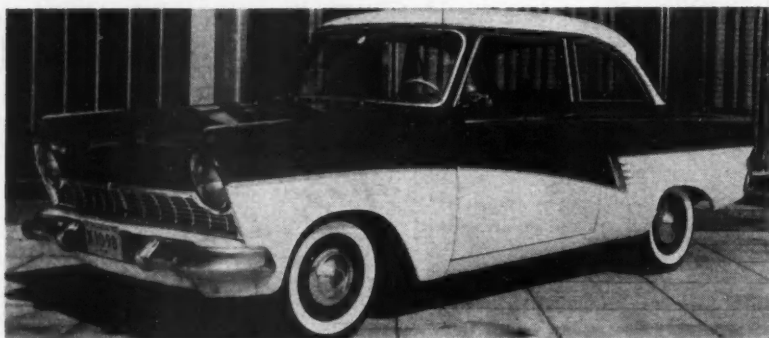
by Bill Callahan Detroit Editor

**FORD'S TAUT LITTLE TAUNUS** 17-M from Cologne, Germany, currently making its debut in the United States market, provides an excellent test of what buyer reaction would be to an American-built car of like size. While Ford officials here maintain they can suggest, but not dictate, designs to their European affiliates, the six Taunus models now being imported bear a remarkable resemblance

are offered—the standard three-speed box, a four-speed close-ratio unit, and a Saxomatic which electrically actuates the clutch as the gearshift lever is moved from one position to the other, thus eliminating the clutch pedal. It is very similar to the British Manumatic. Both of the latter transmissions are optional at extra cost. Brakes are hydraulic, two-leading-shoe design on front wheels with handbrake operating mechanically on rear wheels only.

seat six. The Combi Cars have seats for five with generous luggage space behind the rear seat. Seating positions are comfortable in all models and visibility is excellent. Sliding tops are available on all sedan models at extra cost.

**IN GENERAL**, it would seem that the Taunus should cause quite a stir among those interested in the so-called small car and should further help to gauge the depth of that interest in



**GERMAN-BUILT** Taunus shows influence of Ford-Mercury styling in treatment of grille and side moldings. Car is slightly larger than Rambler American.

to the basic Ford-Mercury styling. Had Ford decided to add a domestically-built small car to its 1959 line, it is difficult to conceive that the American version would have been greatly different in appearance from the Taunus. The grille and side moldings are strictly from Ford.

**THE TAUNUS FALLS** into the category of what American Motors calls a compact, rather than a small, car. It has a 102.5-inch wheelbase (2.5 inches longer than the Rambler American) and an overall length of 172.2 inches; width is 65.7 inches and overall height 59.1 inches. The two-door models weigh 2205 pounds and the four-door 2265. The Combi Cars (two-door station wagons) weigh 2381 for the standard and 2403 for the deluxe.

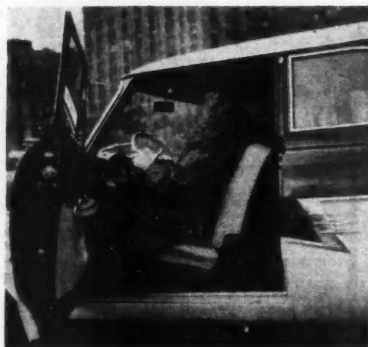
**THE ENGINE** is a water-cooled, overhead valve, four-cylinder, over-square job, with a bore of 3.3 inches and a stroke of 3.02 inches which gives a total displacement of 103.62 cubic inches, or 1.7 liters, if you prefer it that way. It develops 67 hp at 4400 rpm, but puts out 96.9 pounds-feet of torque at 2200 rpm which provides commendable performance. Three transmission choices

**INTERIORS ARE ATTRACTIVELY** done in keeping with current American standards. Instruments are well grouped in front of the driver and are easily read. A unique feature is the door-opening control integral with the armrest, a design worth consideration by American manufacturers. Trunk space is unusual for a European car and the spare wheel and tire are concealed in a compartment in the floor of the trunk. The two-door models will comfortably carry five passengers while the four-door jobs will



**TAUNUS Combi** has seats for five, ample luggage space behind seat.

America. Prices will vary with communities, but in general, sans special equipment, they will range in the early \$2000 brackets. The Taunus is named after the castle-studded German mountain range north of Coblenz which guards the historic river Rhine and was once the stamping ground of invading Roman armies. The six models now being imported will be sold through selected dealers of the M-E-L Division (Mercury-Edsel-Lincoln) of the Ford Motor Co.



**SPARE** is stowed in trunk well. Seating is comfortable, visibility good.

**DESPITE THE LOUD TALK** and high-faluting headlines engendered by current labor discussions in Detroit, there is a general undercurrent of optimism that new contracts resulting from these negotiations will be much sounder than those entered into in the past. Present economic conditions provide a sobering atmosphere for both sides that was not present in previous meetings. The far-away plateaus with high-sounding

names such as "guaranteed annual wages" and "share the profits" plans will probably give way to more down-to-earth realistic agreements that will benefit all groups and consumers as well. Automotive workers have found some agonizing brown spots in the green beyond the fence which was promised in the guaranteed annual wage plan much acclaimed a few years back.

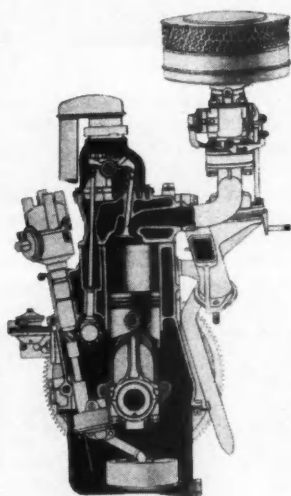
**BEFORE "SUB"** (Supplementary Unemployment Benefits), factories resorted to layoffs when production needs declined. Workers were shifted to State Unemployment Insurance rolls to which the factories contributed. With SUB in effect, employers must contribute the difference between State Unemployment Insurance benefits and a given percentage of the workers' average earnings when employed. Practice during the current cutbacks has been to reduce work weeks rather than institute clear-cut layoffs. A worker on a three-day week cannot apply for State benefits and SUB payments do not become effective until State benefits are being paid, thus the worker in many cases is receiving less for his three days' work than he would for State benefits, plus SUB, if he were laid off.

**THESE DEVELOPMENTS** have punched a big hole in the Union Utopian promises promoted a few years back and are likely to temper current demands for a "Share the Profits," which also may have weak spots in practice. After all, profit-sharing programs are very closely akin to "piece-work" production methods which have been an anathema to unions since unionism began. Workers are not too unhappy with current pay rates and "cost of living" provisions in existing contracts. And, there is no indication that either side is itching for a strike.

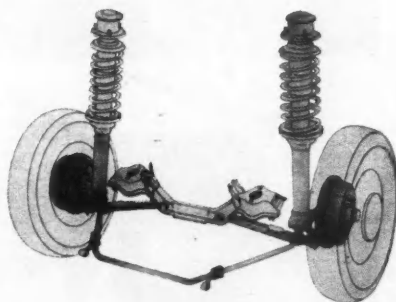
**ALL SIGNS AT PRESENT** point to a somewhat earlier announcement of new models this fall than usual. This means that there will be some worthwhile-looking-into closeouts of 1958 models as of now. With dealer stock still around the 800,000 mark, there is little doubt that strenuous efforts will be made to whittle out room for next year's crop. 1959, unquestionably, will bring some major changes in styling, particularly among those lines which have shown the least strength this year, but these changes will not obsolete current models mechanically.

**AMERICAN MOTORS** has been awarded a \$5 million-plus contract to build Mighty Mite units for the Armed Forces. The Mighty Mite is a latter-day "jeep" for which AM has developed a snappy four-cylinder, V-type, air-cooled engine turning about 90 hp. If, as, and when, production of this engine reaches a point to warrant it, and government permission is granted, AM may make the V4 available to the public. If this happens, enthusiasts will have a capable powerplant for a small sports car that would be worth considering.

**IF YOU NOW OWN** an imported car with tires bearing the brand Veith or Kleber-Colombes you are entitled to the same warranty services afforded owners of American-made B. F. Goodrich tires. Goodrich is now offering 13 tire sizes for small foreign cars, thus the new policy. Three of the foreign car sizes now available are made in plants in the United States while the remaining 10 are produced by Goodrich Associated Companies in Holland, Sweden and France.



**TAUNUS ENGINE** is modern short-stroke design ohv four. Displacing 103.62 cubic inches, it develops 67 brake horsepower, 96.9 pounds-feet torque.



**TAUNUS** front suspension incorporates coil springs and built-in hydraulic shock absorbers and a stabilizer bar.



**FORD VP, George W. Walker (left),** receives MT Award from Walt Woron.

**ONE OF THE PLEASANT** functions I enjoyed attending was a luncheon at the Sheraton-Cadillac held recently in Detroit for 25 members of the press, radio and TV fraternity. Our editor, Walt Woron, at this gathering presented the annual MOTOR TREND Award to George W. Walker, Ford Vice-President and Director of Styling, for the overall concept of the 1958 four-passenger Thunderbird. Walker, who has directed Ford styling over the years, including the new Edsel and the Continental Mark II and III, in accepting the award for the Ford Division of Ford Motor Co., pointed out that he was happy the award was not made for styling, but rather was for the 1958 car that best combines "safety with performance and comfort with compactness."

*continued on next page*



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in stride . . .  
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## SPOTLIGHT ON DETROIT

*continued from preceding page*



**R**EAL COMPETITION for the Volkswagen bus is offered in the new Thames "800" Estate Bus presently being imported by the Imported Cars Division of Ford Motor Co. and by Ford of England. This little carrier, mounted on an 84-inch-wheelbase chassis and powered by a 59-hp engine (at 4200 rpm), should easily out-perform the Volks. Price-wise it will be competitive and will be distributed throughout the U.S. by selected M-E-L dealers as well as dealers now handling English Ford products. This new unit, added to the 13 units now imported plus the six Taunus models, gives Ford complete coverage of the small car field.

**THE SHORT-STROKE**, overhead-valve, four-cylinder Consul engine displaces 103.9 cubic inches and will average 27 mpg on regular gas. Compression ratio is 7.8 to 1. Ball-joint independent suspension is used on the front end and semi-elliptic springs at the rear.

**A NOVEL FEATURE** of this new little bus is the retractable step at the side entrance which drops into place as the

door is opened and folds back into concealment when the door is closed. The cargo space in the rear of the cross-fixed seats is provided with two jumper seats that can be folded against the walls or completely removed by unscrewing a butterfly nut which holds them in place. These seats increase the overall capacity of the bus from eight to 10 passengers.



# Who took the rocking chair out of this year's cars?



**IN MOST CARS** when you turn sharp, you rock *this way*. (Hang on to your hat!)



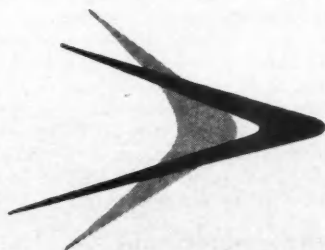
**IN MOST CARS** when you stop fast you rock *this way*. (Watch out for your nose!)



**IN MOST CARS** when you start fast you rock *this way*. (Whoops!)



**BUT NOT IN THE CARS WITH THE FORWARD LOOK!**  
*They're the only cars with Torsion-Aire ride . . . biggest advance in automobile riding since shock absorbers.*



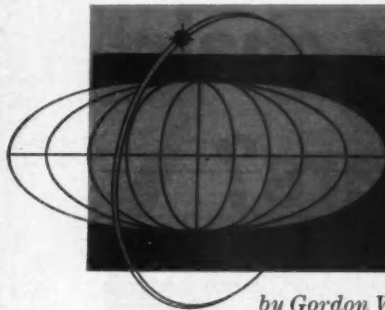
Who's taken the rocking chair out of driving?—Chrysler Corporation! Torsion-Aire gives you the *first* ride without rocking, tilting, nose-dive stops and squatting starts. And at no extra cost, too!

It's the biggest, most demonstrate-able exclusive in automobiles today. And only one kind of dealer has it—the dealer with *The Forward Look!*

**CHRYSLER CORPORATION**    *The Forward Look*

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MOTOR TREND/JUNE 1958 15

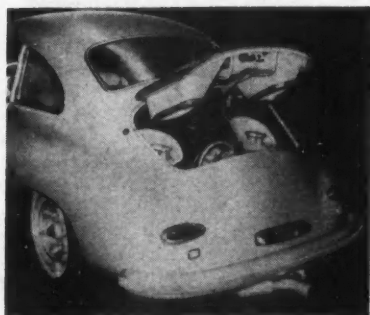


## WORLD

Sweden's Volvo Amazon appears at Geneva show....Farina produces experimental body for GM....Renault body design is

by Gordon Wilkins *European Editor*

**H**OTTEST NEWS out of Germany this month is the announcement from Daimler-Benz that effective Jan. 1, 1958, they had acquired the majority of shares of Auto-Union. This certainly scotches the rumors that Chrysler was momentarily going to announce its purchase of the Auto-Union facilities in Dusseldorf. D-B has said that Auto-Union will remain completely independent in production and management. We doubt, however, if some changes won't creep into the design and



**NEW PORSCHE** Carrera Gran Turismo has separate carburetor air ducts.

merchandising of future DKWs. It has been reported that D-B has had a small car on the drawing board for several years; many of its features may find their way into next year's DKW.

Changes in the '58 Porsche Carrera Gran Turismo include a modified version

of the "ram" principle, with air being drawn into the two Solex double down-draft carbs through separate air ducts attached to the lightweight lid, a lighter front hood and doors, a separate oil cooler, new shocks, Frendo brake lining, and side and rear windows of Plexiglas.

### BRITAIN

A new Jaguar XK-150 two-seater roadster made its debut at the New York Show on April 5th. The open car will join the existing range of XK-150 Drophead and Fixed Head Coupes. The new model is a descendant of the original XK-120, introduced in 1949, and has sold 20,000 models in America alone. The new model will come in two forms: a standard model, and a dual-purpose competition and sports version of the same car. The roadster uses the 3.5-liter six with "B" head, high-lift camshafts, and 210 bhp. Four-wheel disc brakes and roll-up windows are standard. A different head (9 to 1 compression) and three S.U. carburetors up the power output of the XK-150 "S" to 250 bhp at 5500 rpm and 240 pounds-feet at 4500 rpm. The entire output of this new two-seater will be reserved for export, particularly to America. Prices range from \$4495 to \$5020 depending on equipment.

### FRANCE

The Peugeot (pooj-oh), made in France by one of the first automobile manufacturers in the world (in business for 139 years), is being introduced to the United

States through Renault dealers. Plans call for importing 8000 automobiles in 1958 and maintaining an inventory of approxi-



**PEUGEOT 403** is new French import. Will be sold by Renault dealers.

mately \$250,000 worth of spare parts in the United States at all times.

"Peugeot is entering the United States market," says M. Francois de Peyrecave, President and General Manager of Peugeot, Inc., New York, "to meet the growing demand for a medium-sized, high-quality, low-cost automobile which is economical to operate."

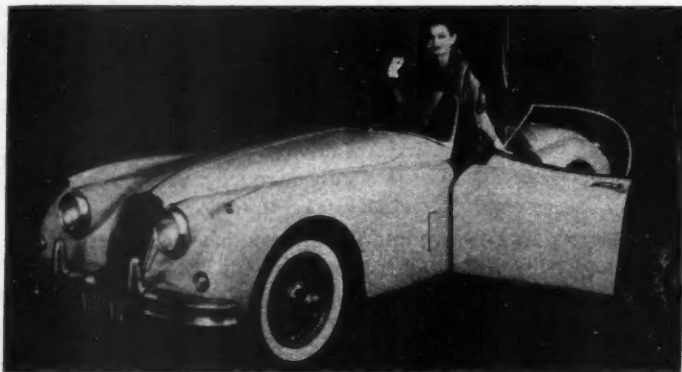
The Peugeot 403 is a 105-inch-wheel-base, four-door, four-cylinder, 65-hp car that should give around 30 mpg. It is being sold with a slide-back sun roof as standard equipment for \$2175, F.O.B. New York. There are four forward speeds, including an overdrive or economy gear. Top speed is around 85 miles per hour. (MT tested a lower-powered version in Aug. '56, will have a test of the new model in an early issue.)

### JAPAN

This far east country, anxious for more world-wide trade, is building a new baby car called the Subaru 360. Smaller than the French Renault, it has a rear engine and seats four. It gives 62 mpg, has a top speed of 52 mph and will sell for \$1100 when it is in production. The Fuji Heavy Industries Co. will start producing 500 a month in May, rising to 2000 within a year. It will go on sale in America, South-East Asia and Japanese markets.

### GENEVA MOTOR SHOW

The Swiss vehicle market, if not saturated, seems to be reaching a certain stabilization of demand. Car sales last year, at 57,788, showed a rise of only three per cent over the previous year, with the Ger-



**NEW JAGUAR XK-150** Roadster has four-wheel disc brakes, optional automatic box. Competition, 250-bhp model "S" is also available.

sources of big hassle....Peugeot invades American market....Jaguar XK-150 roadster unveiled at N.Y. show....Jag competition roadster also announced....Daimler-Benz gains control of Auto-Union....Porsche Carrera Gran Turismo is announced....Japan building new baby car called Subaru 360....Porsche has new competition car

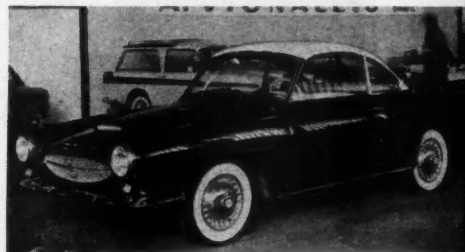
man and French industries continuing to gain ground, while American sales dropped by 27 per cent.

Apart from the efforts of the specialist coachbuilders, there was little new at the Show among the private car exhibits. Sweden's Volvo Amazon sedan appeared for the first time with the twin-carburetor 85-bhp version of the 1580cc four-cylinder engine and a four-speed all-synchromesh gearbox. The revived Rambler American appeared in Europe for the first time but

its austere finish will not find it many buyers at 31,500 Swiss francs, which is 25 per cent more than the price of a Ford Zephyr, 13 per cent more than a Vauxhall Cresta and 17½ per cent more than Simca's handsome V8 Beaulieu.

Pinin Farina showed an experimental black Cadillac 60 coupe of very restrained design built for General Motors (*The '59 Cadillac should look so "restrained."*—*Editor*). Vignalle had an interesting Triumph TR-3 convertible on which the wrap-around rear window can be left in place when the top is furled to reduce the amount of wind whipping into the cockpit. A Renault Dauphine convertible exhibited by Ghia Aigle, the Swiss coachbuilder, produced a behind-the-scenes row which delighted the show gossips. For the first day it lay unseen under dust covers until the show organizers insisted it be revealed. It seems that Renault had commissioned Ghia of Turin to design a Dauphine convertible and since Ghia's chief designer Savonuzzi has now crossed the Atlantic to work for Chrysler, Frua was called in to do the job. When it was done, Ghia and Frua quarreled, so the latter went straight to Ghia Aigle (positively no connection) and got them to build another similar car. Renault, horrified, demanded that the car be kept out of the show, but the Aigle boys demanded 70,000 Swiss francs (\$16,800) in cash as the price of this small service. As the cash was not forthcoming, the car went on show, giving the public a preview of what *may* or *may not* be Renault's forthcoming Gran Turismo Dauphine. In any case it looks excessively heavy for the Dauphine engine.

continued on page 63



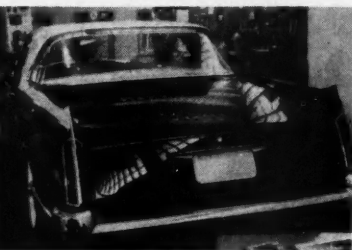
**SIMCA ARONDE** coupe with sleek lines by Beutler, the Swiss coachbuilder.



**COUPE BODY** on Volkswagen chassis by Enzmann, a Swiss coachbuilder.



**LOTUS COUPE** by Ghia Aigle has the doors extended into the roof panel.



**FARINA** body is on Series 60 chassis. Styling is simple and restrained as indicated by abbreviated fin treatment. Color scheme is black, white.

MOTOR TREND/JUNE 1958 17



**MICHELOTTI** designed body built by Vignale for Triumph TR-3 chassis.



**RENAULT DAUPHINE** convertible body was subject of dispute at Geneva.



**PININ FARINA** designed this experimental Cadillac body for General Motors.

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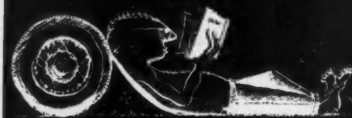


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**CAR OWNER'S**



**LIBRARY**

The 1958 edition of the *Automobile Year*, annual automobile showcase of the publishing world is (as usual) a collector's item. The 224-page volume is profusely illustrated with drawings, black and white photos, and superb color plates of some of the finest automotive photography in the world. There is a complete roundup of all new models introduced in 1957, plus the '58 versions as exhibited at the Paris, Turin, Frankfurt and London motor shows, as well as in the United States.

Other chapters include the International Records of 1957, schedule of 1958 Championship Races, a profusely illustrated chapter on Bugatti—with wonderful photos of some of the rarest of the "beautiful brutes," a photographic survey of the finest automobile styling of the year, exclusive reports on all 1957 Championship Races counting toward the Grand Prix Drivers World Championship, the World Championship for Sports Cars, the European Grand Touring Championships, the European Mountain Championship, and discussions of the most controversial ideas in the automotive field by such world-renowned writers as England's Gordon Wilkins, Italy's Johnny Lurani, Belgium's Paul Frère and Jacques Ickx.

This is the English-language edition of the *Annual*, which is also published in German and French. An excellent buy for the enthusiast at \$9.95. Hanover House, Garden City, N.Y.

\*\*\*

Crammed into the 212 pages of *In The Track of Speed*, by Stirling Moss, is the blow-by-blow account of his meteoric rise to fame at the wheel of racing cars. Not only does the book enlighten the reader to the trials and tribulations of Moss, it is also a fine history of post-war Grand Prix racing. To this end he has woven into the text accounts of the experiences and strategy of other famous drivers with whom he has competed.

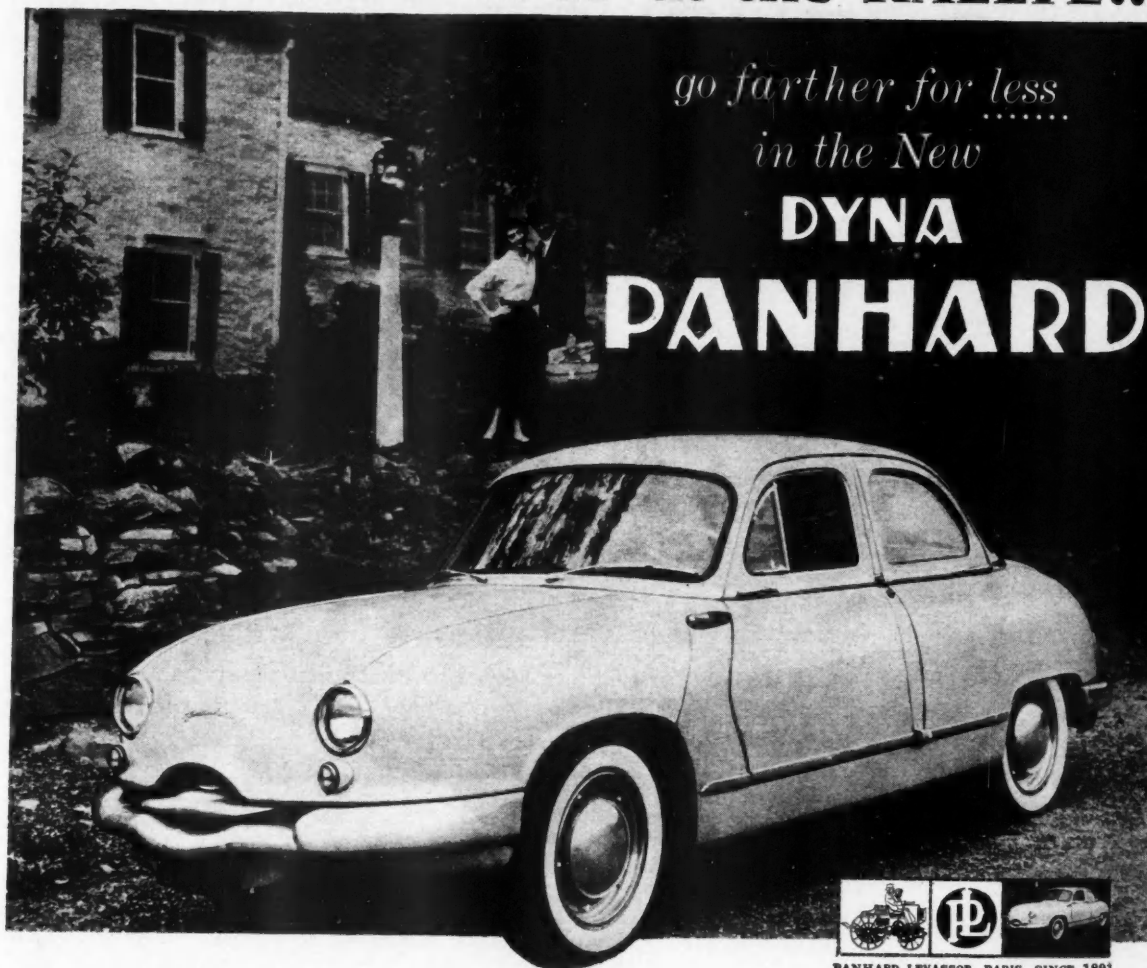
Beginning with his adventures as a 14-year-old racing a hopped-up old car around his father's farm, Stirling has logged his progressive successes and failures through the years. In describing these events, he not only places the reader in the driver's seat during the race, but into the secret confines of the team pits where racing strategy unfolds.

Anyone interested in motor racing, be he a novice, veteran, or just a member of the competition observer's club, can learn much about the strategy and excitement of modern European racing from this driver who has spent his life at speed. American edition published by G. P. Putnam's Sons, 210 Madison Ave., New York for \$3.95.

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# CHRYSLER TO ENTER SMALL-CAR MARKET?

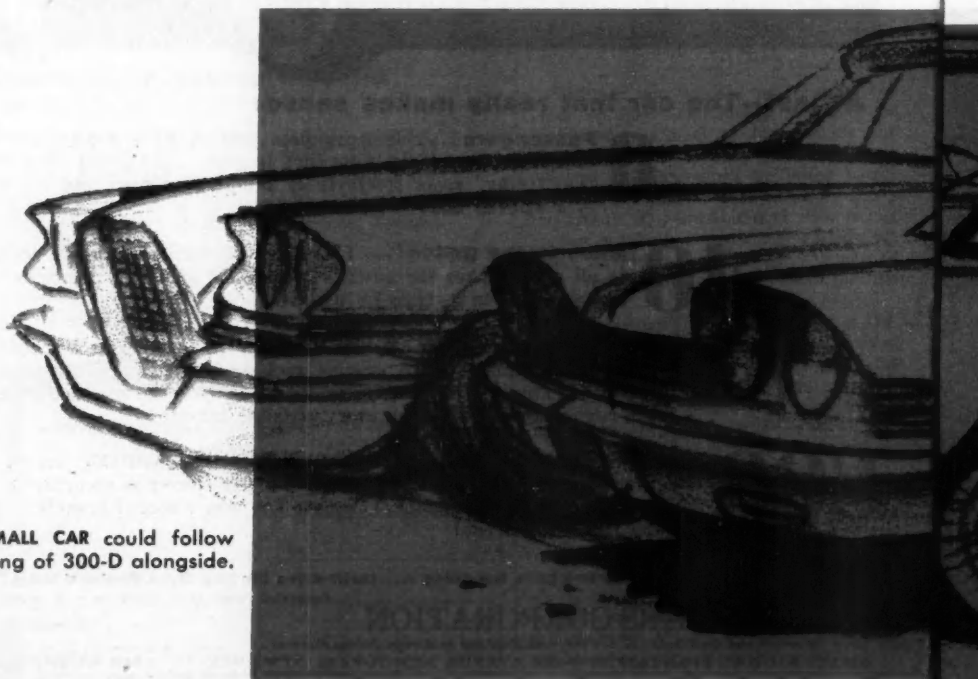


**F**OR SOME TIME NOW it has been assumed that if Chrysler got into the small-car market, it would be with a car made outside the U.S. and brought in for sale by existing Chrysler product dealers. It was known that there was a high level management team from Chrysler visiting various European automotive concerns, with an eye open for purchase if the right thing should be available. Names mentioned included Rootes, Fiat, B.M.C., Auto-Union and Standard-Triumph.

While the analysis teams from Chrysler were met with everything from aloofness to enthusiasm at the various factories, it was apparent that the company was serious in its projected course of study. Though they vehemently denied that they would be marketing a small car, they did make this statement on Nov. 27, 1957: "... These study groups are for the purpose of determining the nature and volume potential of the world market for automobiles, the types of products required to meet world demand, and the production, transportation and distribution facilities and organization

TEXT BY  
BOB CUMBERFORD

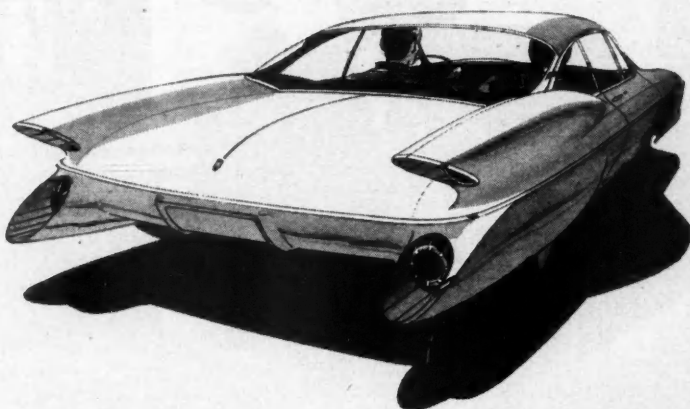
ILLUSTRATIONS BY  
STAN MOTT



CHRYSLER SMALL CAR could follow rugged styling of 300-D alongside.

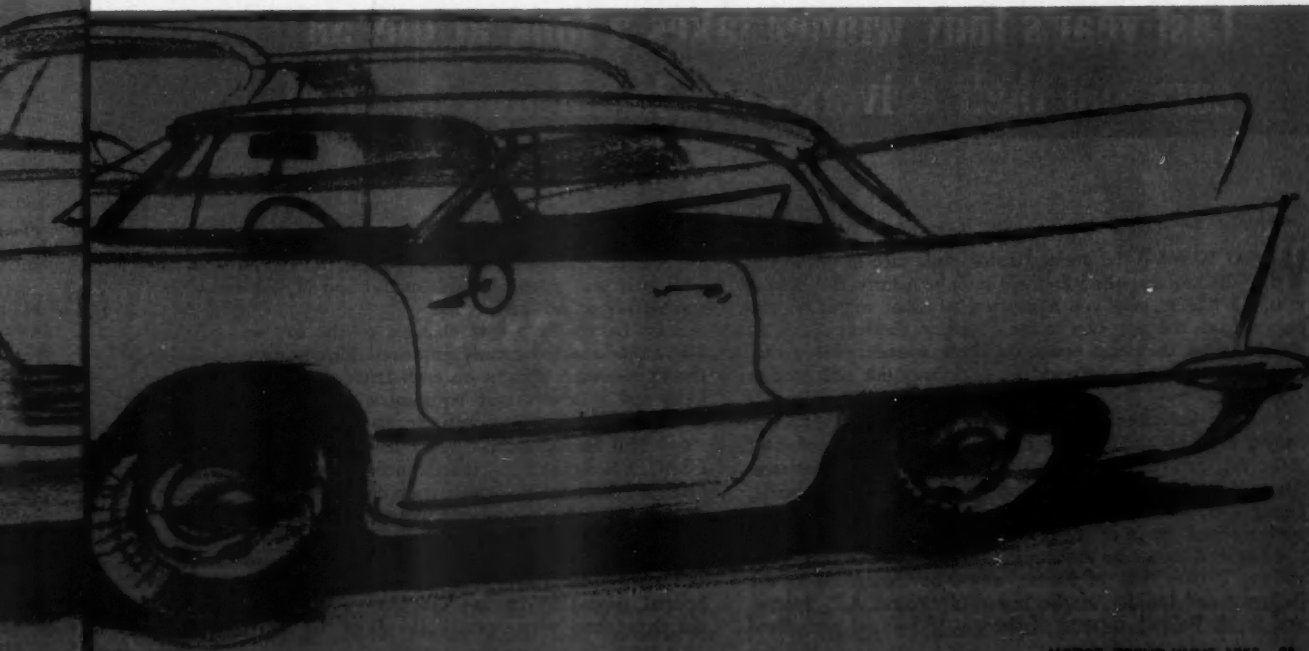
that may be needed. The studies are expected to be completed in the next six to 12 months. The company's future course of action regarding the marketing of a volume product geared to world market conditions and demands will be determined at that time . . ."

The above *could* indicate one possible course of action: the production of a European car (under the Chrysler banner, of course) *for Europeans*. General Motors and Ford do it; why not Chrysler? After establishing this car on a more solid footing in its "world market," the next possible move could be to set up a strong distributor organization in this country through Chrysler dealers. It was thought that the DKW could have been a good car to "Chrysler-ize," but now that Mercedes-Benz has assumed ownership of the Auto-Union plant in Dusseldorf, Chrysler must look elsewhere. In any respect, whatever "deal" is made, it is safe to assume that the car or cars would have an unmistakable Chrysler flavor—perhaps even something like these conjectural drawings? /MT



**CHRYSLER'S WEDGE-SHAPE** styling philosophy would likely be evident in high fins (above) and sloping hood (opposite page).

RUMORS ABOUT A CHRYSLER "SMALL CAR" ARE NOT NEW. CHRYSLER RESEARCH TEAMS HAVE ROAMED THE GLOBE. INVESTIGATING THE WORLD MARKET. WHAT HAPPENS NOW . IS ANYONE'S GUESS. HERE'S ONE FROM US...





*"Who Will Win"*

QUINN EPPERLY POINTS OUT DETAILS TO SAM ON NEW LOW-PROFILE CAR WITH FLAT-MOUNTED ENGINE BUILT FOR NORMAN C. DEMLER.

## Last year's Indy winner takes a look at the '58 cars and their drivers—and handicaps the field

**by Sam Hanks**

**WHAT TO ME** is the greatest automobile race in the world—the Indianapolis 500—will soon be history. But before it is, I'd like to give you a preview of what might be expected from the new cars in the Southern California area—birthplace of the most consistent Indy winners. From this list of cars I'm going to stick my neck 'way out and predict a winner. Would you like to second-guess me?

In early April I made the rounds of all the Southern California shops where the new cars are being built, including those that ran one-two last year. I wanted to see what new ideas they were coming up with to provide higher speeds, better and easier handling features, along with improving sticking qualities in the turns.

I began my tour by visiting my partners of last year—and the car I love. This, of course, would be George Salih, the designer and builder of the beautiful Belond A.P. Special, and Sandy Belond, sponsor of the car. If I sound prejudiced

it's because I am, and why not? I had the best seat in the house last year in the Belond Special and it took me to my first victory at the 'yard.

Salih has made a few changes to the car which I am sure should make it greatly improved. He's using new double shocks mounted upright on each front wheel, longer radius rods, and a few minor equipment and engine accessory changes. After crawling into the driver's seat, I found more room than before. I can't figure if Jimmy Bryan (National USAC Champion) is that much bigger than me—the original "Thin Man"—or if they did it for added comfort. Anyway, the throttle's been moved forward and the pan's been dropped for more legroom.

My next visit was to Ted Halibrand's shop to talk with mechanic Jack Beckley and to look over the Leader Card Special, owned by Lindsey Hopkins of Miami, Fla. This is the same shop where practically all of the rear ends, front

# Win the Big 500?"

wheel spindles, steering gear assemblies, and magnesium wheels are built for the Indy cars. Ted was the recipient of the Continental Casualty Co.'s award for the greatest contribution to safety in racing in 1957, a well-deserved award.

To get back to the car which Rathmann is again driving this year (he drove it to second place last year), I kinda smoked this baby over pretty good. Beckley has made quite a few changes to the axle, radius rod and shock absorber installation in the front end suspension to improve the handling characteristics. There are other changes—but these Jack is keeping to himself and I couldn't dig them out. Whatever he does, you can bet they'll make the car go better. Last year was close enough (20 seconds behind me).

My next stop was at Quinn-Epperly's shop, where they built the body and tanks of the Belond A.P. Special and the entire Lindsey Hopkins' car. They're now completing two new cars similar in construction and appearance to the Belond car, even to the engine lying almost flat on its side (18 degrees off horizontal). One car, owned by Norman Demler of New York, has the same front end suspension as the Belond car, with the torsion bars on top of the solid front axle, but with provisions made to install them below if wanted for test or for the race. The other car, owned by Al and Johnny Jones of Indianapolis, has the torsion bars below the front axle.

Capable Tony Bettenhausen will be the driver of the Jones & Maley car; he should be a serious threat. The Demler car will have George Amick as its driver. This will be Amick's first 500 race, but I think he stands a good chance of being "Rookie of the Year." Bob Phillips, a very capable boy, will be chief mechanic for the team.

One of the best race car builders in the business, Eddie Kuzma, is responsible for three of the newer cars: one for J. C. Agajanian, one for Bill Ansted of Indianapolis, and the third for H. H. Johnson of San Diego, Calif. All three cars are of the same lightweight construction, differing only in name, color, driver and mechanic. Troy Ruttman will drive the Agajanian Special, with Frank McGurk "mechanicking." Eddie Sachs, in his second 500 race, will be driving the Ansted car, while Harry Stephens will be the mechanic. Jimmy Daywalt will be driving the third car.

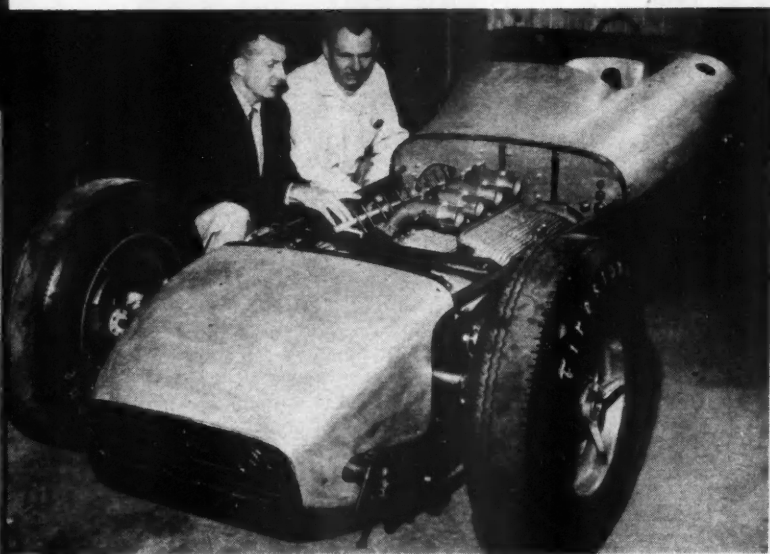
Two new features I particularly like about Aggie's car are air jacks built right into the car, eliminating the hand jacks, and a quick-connect aircraft-type valve for faster refueling. They're going all-out to shorten time-consuming pit stops.

Perennial Frank Kurtis is the builder of the new D.A. Lubricant car, the only car in the race (to my knowledge) with completely independent front suspension. This is accomplished with trailing arms and torsion bars. The engine in this car also lies flat, giving it a low profile, and uses a light tubular construction. Johnny Thomson will drive this car.

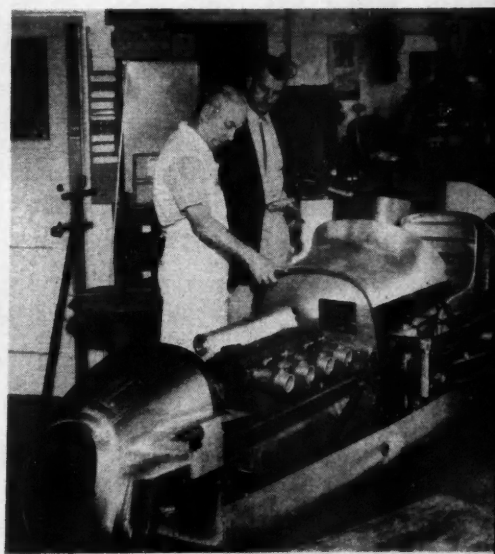
Frank has also, along with mechanic Ray Nichels, completely redesigned the Sumar Special, driven last year and this by Pat O'Connor. A part of the new car's design I like very much is the enclosure on the right side of the cockpit to prevent wind buffeting on the driver. I feel this is a very important factor in reducing driver fatigue.

John Zink, owner, with mechanic A. J. Watson, winners of the '55 and '56 500-mile race, have increased their racing stable to three cars—all three designed and built by A. J., and all featuring the upright engine mounting. His '56 winning car will be driven by Jimmy Reese. The car Ruttman drove in '57 will be driven by Jud Larson. The new car for this race, a duplicate in appearance and construction of his '57 car, will be driven by Pat Flaherty. At this writing it's questionable if Pat's right arm will pass the medical examination for contestants. Regardless of the outcome, I admire Zink's and Watson's spirit in giving Flaherty a comeback opportunity. I personally don't like the idea of being on a two-car team, let alone three cars. One car is a pretty tough operation in itself, but if anyone can start

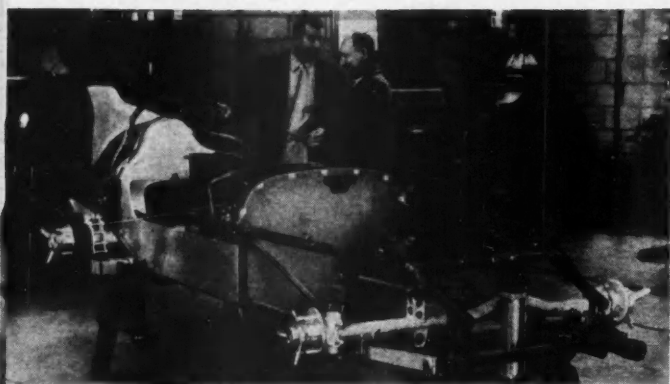
PHOTOS BY BOB D'OLIVO, LESTER NEHAMKIN



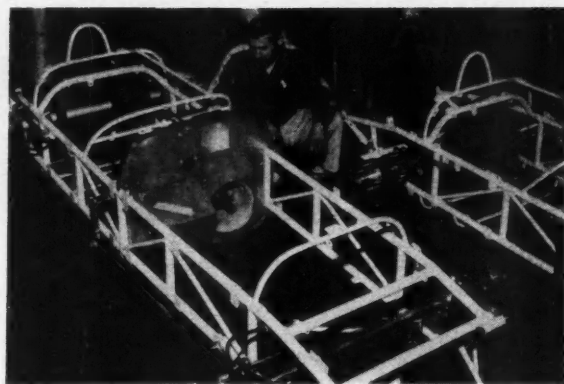
LOU MEYER shows Sam another car built by Quinn Epperly utilizing a horizontal engine mount. Meyer supervised construction of this car.



LUGIE LESOVSKY shows Sam the only new dirt-track type built for the '58 race.



ONE OF THREE new cars by Eddie Kuzma. Car features a quick-connect refueling valve and built-in air jacks.



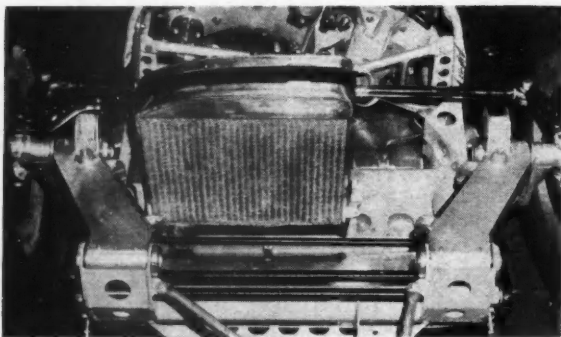
A. J. WATSON, builder of '55-'56 winners, has new car for owner John Zink with light body over this sturdy frame.

## '58 Indy winner

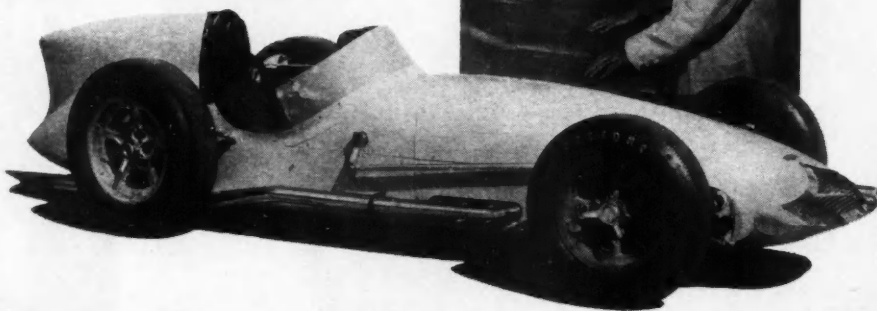
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three cars, I'm sure A. J. and John are the boys to do it.

Another Lindsey Hopkins' car has been built by Lugie Lesovsky. It will probably be the only new dirt track chassis entered in this year's race. It has light construction and will probably be the lightest car entered. It is of the same design and construction as the car that Roger Ward has been driving on the championship trail with good success. At the time I saw the car no driver had been named. Lugie believes that Hopkins and mechanic Beckley entered it more for a shakedown test than anything else. It should be interesting to compare this type of chassis with the regular Indianapolis roadster-type cars.



D. A. LUBRICANT SPECIAL built by Frank Kurtis is only car entered in race featuring independent front wheel suspension.



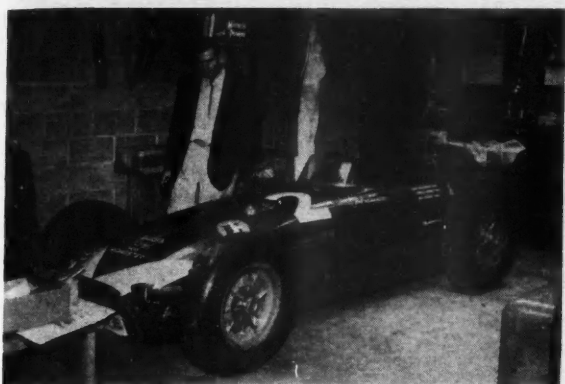
NEW CAR by Frank Kurtis has low profile due to flat-mounted engine. Other features are return to steel

My once-over of the leading contenders wouldn't be complete without considering the machine that Tony Capanna and Harry Duncan are putting together. I understand that Don Francisco is giving you a comprehensive report on this car, so I'll limit myself to just a few comments.

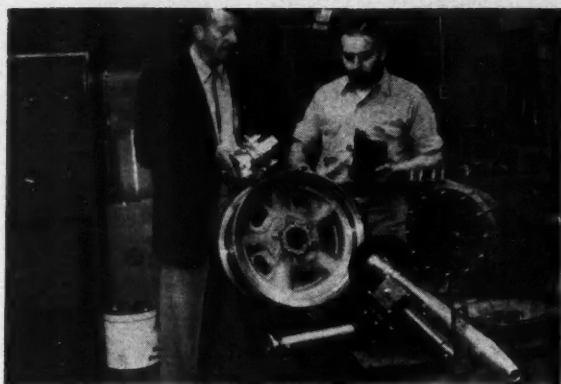
In terms of immediate doubt, even though the chassis has been somewhat modified, it's a relatively old 500-A job. My helmet's off to Jerry Unser, but without big car experience it's awfully tough to qualify at Indy. The third drawback, as I see it, is the torque of the V8, which doesn't compare to the Meyer-Drakes. I was glad to see that the weakest points of a stock engine—the crank and the con rods—are of Capanna's own design. This is good. If stock cars are ever going to be considered competitive, this could be it. Any way you look at it, Capanna is to be commended for his confidence and perseverance. If the car qualifies, they can all pop buttons over it. If it finishes, that would be tremendous!



fuel and oil tanks, independent auxiliary brake system pointed out on blueprints to Sam by the builder.



**LEADER CARD SPECIAL**, to be driven by Jim Rathmann again in '58, has some changes classified as "top secret."



**TEDDY HALIBRAND**, shop foreman for brother Ted, shows Sam some Halibrand components used on all Indy cars.

**NOW COMES THE TOUGH PART**—picking the car and driver that will win. Well, as I said at the beginning of this preview I'm going to stick my neck out, so here goes.

**FOR THE WINNER** I'll stick with two champs—last year's winning car and last year's national champ. I feel that with Jimmy Bryan driving the Belond A.P. Special, it's the car to beat.

**FOR SECOND PLACE** and the car that stands the best chance of beating the Belond car, I'll take determined Jim Rathmann and the Leader Card Special.

**THIRD PLACE** should go to a new car and a driver who's becoming a veteran Indy pilot—the Agajanian Special with the always aggressive Troy Ruttman.

From here on down the line the picking gets tougher, if not impossible, but I'll still stay with the West Coast cars.

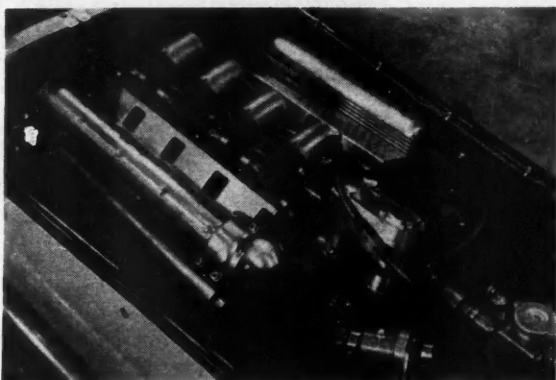
**FOURTH**—Pat O'Connor in the Sumar Special.

**FIFTH**—Tony Bettenhausen in the Jones & Maley Special.

**SIXTH**—Johnny Thomson in the D.A. Lubricant Special.

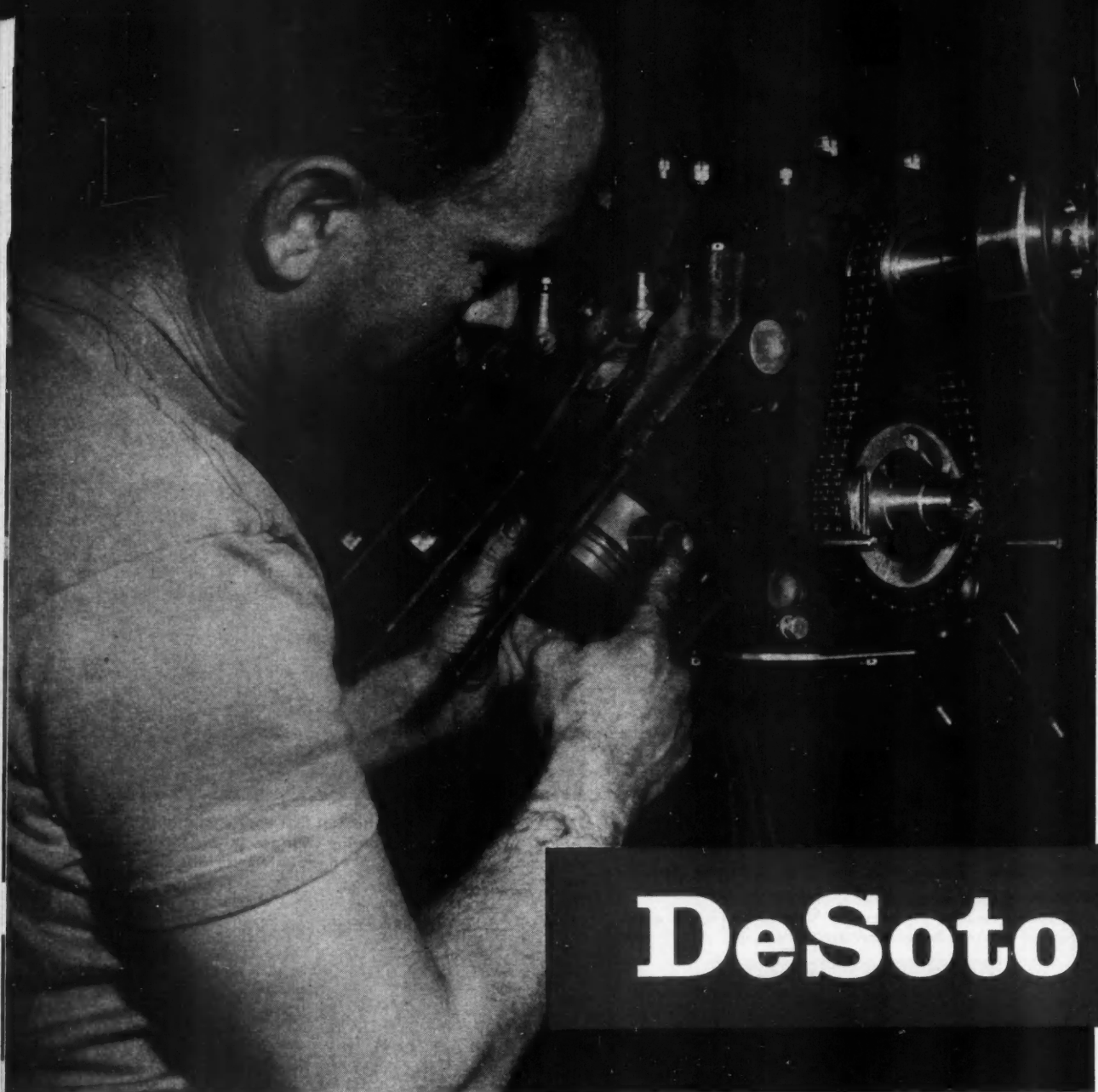
**SEVENTH**—Jimmy Reese in the Zink Special.

So there you have my selection. Why not jot yours down and see if you're a better forecaster than I am? /MT



**SAM AGAIN SITS** behind wheel of last year's winner while builder George Salih explains changes in car for 1958. New double shocks have been mounted upright on each front wheel and radius rods have been lengthened. There are also changes in engine accessories and in cockpit to allow for new driver Jim Bryan's dimensions.





# DeSoto

ENGINE DESIGNER TONY CAPANNA INSTALLS PISTON AND ROD ASSEMBLY. LARGE ROD BIG-ENDS DICTATED INSTALLATION METHOD.

**T**HE CAR WAS LITTLE MORE than a white blur when it came out of the northwest turn and onto the bricks of the front straightaway. But even at that distance the snap of its exhaust was enough to identify it as a car that was "different." As the car flashed past the starting line, bounced over the slight bump where asphalt took over for bricks, and then cut down across the track in the groove around the southwest turn, the voice on the loud-speaker said, "That's the last warm-up lap for Bob Christie in the Dean Van Lines-Wil-Cap Special."

It was 1955 and the car on the track was making a qualification attempt for the annual Indianapolis Motor Speedway

Memorial Day race. The car's crew had worked long and hard to put it where it was and they were fighting tradition in the form of an avalanche of cars powered by highly specialized Meyer-Drake racing engines. Their main weapon in the fight was a modified Dodge V8 engine for which Tony Capanna of Los Angeles was primarily responsible.

It was considered unthinkable, if not impossible, for an engine such as the Dodge to take on the Meyer-Drakes on their terms and their ground with any degree of success. But this car, with Jimmy Bryan in the seat, had turned a practice lap at 140 mph, and for this particular race, a four-lap average of 135 would

put a car in the starting field. If the car were successful in qualifying it could open up a whole new era in Speedway racing. It could strike the first blow in a series of blows that might eventually break the Meyer-Drake monopoly and renew lagging interest in the race.

The car's exhaust could be easily heard as its driver negotiated the southeast turn and the sound blared into a full-throated roar as the throttle was opened for the back straightaway. As the car accelerated, its engine could be heard picking up rpm's, and then, almost as though it had never existed, the sound was gone. The voice on the loud-speaker rose to a shout: "He's out of control!"

He's spinning! He's off the track! He's hit the inside guard rail!" There were a few seconds of silence and then the voice came back again, still shouting, "He's all right! He's out of the car and taking off his helmet!"

The driver was all right but the car was badly damaged. When the engine was inspected to determine what had happened it was found that part of a tiny rivet from the oil supply tank had become lodged under its oil pressure release valve, causing its bearings to be starved for oil. The bearings had seized, locking the crankshaft, and the car had gone into an uncontrollable slide.

**TONY CAPANNA HAS HAD** an ambition to compete at Indianapolis, in one way or another, for what he estimates to be 28 of his 36 years. At first, when he was very young, he wanted to be a driver—and this isn't unusual for kids who like automobiles—but later his ambition was more along the lines of being a car builder and owner. Running in hot rod competition on California's dry lakes before and after World War II gave him many years of valuable experience with high-performance engines and his successful machine shop and special automobile parts manufacturing business made it possible for him, in 1955, to make his first attempt at the Speedway.

When I recently asked Tony how he

that it was possible for a converted production passenger car engine to hold its own with the Meyer-Drakes. He was convinced to the extent that he will again be at the Speedway this year—this time with his own car and *four* DeSoto engines modified to comply with Indianapolis Motor Speedway rules.

Tony's decision to use a DeSoto instead of a Dodge this year was based on two important advantages in favor of the DeSoto. One of these is that it is possible to install considerably larger valves in its heads and the other is that it has a larger cylinder-bore diameter. Adequate valve area is important in any engine that is to breathe well at high crankshaft speeds and the bore diameter became important when Tony settled on a three-inch piston stroke.

Advantages of a three-inch stroke in a racing engine are numerous. Structurally, it is possible for the crankpins on a shaft with such a short stroke to overlap the main bearing journals to a much greater extent than would be possible with a longer stroke, thus making the shaft stronger. Mechanically, the short stroke makes it possible to run the engine at high speeds with comparatively modest piston speeds. With a three-inch stroke, piston speed at 6000 rpm is only 3000 feet per minute. When compared to the approximately 4500 feet per minute of the pistons in a Meyer-Drake at

Soto block it was possible to arrive at a bore diameter of 3.670 inches, which would give a total displacement of 255 inches, by enlarging its cylinders .045-inch. Enlarging the cylinders this amount wouldn't weaken their walls.

The only parts of one of Tony's DeSotos that haven't been altered or replaced are some of its sheet metal components. Everything else has either been altered or made especially for the engine.

**FROM A CASUAL GLANCE** at the cylinder block one could assume that little had been done to it to change it from its stock condition but a closer inspection will reveal many changes. First, its cylinders were honed to 3.670 inches by the Micromatic Hone Corp. in Los Angeles. Tony had the cylinders honed instead of bored because boring would have been done from the top surface of the block. This surface might not have been exactly parallel to the centerline of the block's crankshaft bearing bores, and honing could be done with a machine that guaranteed the finished cylinders to be at right angles to the bearing bores. A surface finish of 23 microinches was left on the walls to provide a good seating surface for the piston rings.

Honing the cylinders so they would be exactly 90 degrees to the crankshaft was just one more step in Tony's plan to eliminate as much friction as possible from the engine. Horsepower is required to overcome the friction of the moving parts in an engine and any reduction in friction results in greater torque at the flywheel. Replacing the plain bearings in some of the engine's parts with needle roller bearings and installing piston rings with chrome friction surfaces were other steps in this plan.

After the cylinders were honed, a groove .040-inch deep, .040-inch wide, and approximately  $\frac{1}{8}$ -inch from their edges was machined in the top of the block around each of them. The purpose of these grooves is to hold a ring made of .048-inch-diameter copper wire. When the cylinder heads and their gaskets are in place on the block these rings press against the gaskets and create a circle of high pressure around each cylinder. This high pressure enables the gaskets to resist the high cylinder combustion pressures without blowing.

The main oil gallery that runs the full length of the cylinder block, and from which branches run to the main bearing bores, was enlarged to a diameter of  $\frac{3}{8}$ -inch. This was done to enable the gallery to carry a greater quantity of oil so that each of the crankshaft's main bearings and crankpins would be amply lubricated at high engine speeds.

One of the main changes made to the block was the installation of Torrington needle bearings in its camshaft bearing bores. Needle bearings are low in fric-

# on a Dare

by Don Francisco

## Tony Capanna's modified DeSoto V8 is out to prove that a passenger car engine can hold its own at Indy

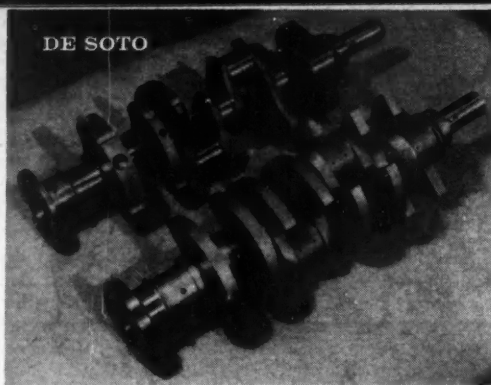
felt when the Dodge failed after coming so close to success he said that he had been terribly disappointed but very much encouraged. Coming so close to achieving a goal after so many years and then having something like a broken rivet destroy everything was one of the biggest disappointments he had ever had. On the other hand the performance of the engine in practice convinced him

the same rpm, this is practically idling.

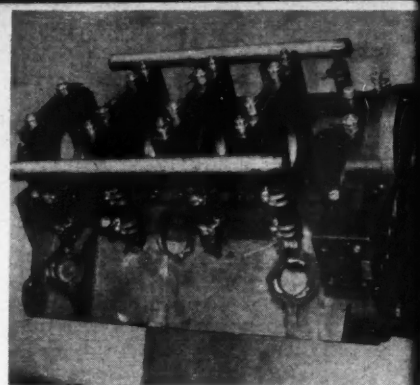
Establishing the stroke at three inches automatically determined the diameter of the engine's cylinders. To be eligible to compete at Indianapolis, an engine cannot have a piston displacement greater than 256 cubic inches. In an eight-cylinder engine that has a stroke of three inches this limits the cylinder bore to a fraction over 3.670 inches. With a De-



**CRANKSHAFT** by Wil-Cap has a special damper.



**DE SOTO**  
**STOCK CRANKSHAFT**, top, compared with Wil-Cap, bottom. Special crank has extra counterweights.



**BOTTOM END** has 3 special bearing caps plus stock end cap bored to fit.

continued

tion and high in durability; they should be ideal for a camshaft. To enable readily available bearings to be installed it was necessary to enlarge the bores.

**ANOTHER MAJOR CHANGE** to the block was the installation of special caps on its front four main bearing bores. Special caps are desirable on engines that have been modified for high horsepower output and must run at high crankshaft speeds. The stock rear cap was used because it is much larger than the others and strong enough for the application. Each special cap was machined from a rectangular piece of aluminum that had a thickness equal to the width of the bearing web to which it was to be bolted. Stock caps are held to the block with two capscrews, but Tony replaced the capscrews with studs.

To add to the strength of the special caps, Tony made them much longer than those they replaced. Then he drilled each of them, and the webs in the cylinder block, for an additional  $\frac{3}{8}$ -inch stud near each of its outer ends. This provided each cap with four studs to hold it to the block. Self-locking nuts are used on the studs.

Whenever special bearing caps are fitted to a block it becomes necessary to finish their bearing bores while they

are bolted to the block so the bores will line up with those in the block. However, so that he might use 2.500-inch-diameter main bearing journals on the crankshaft instead of stock 2.375-inch journals, Tony had the block as well as the caps bored for larger bearing inserts. The rear bearing bore was made the same diameter as those with special caps.

All the special caps, as well as the engine's pistons and a special aluminum pick-up fitting on the stock oil pump (the stock pump is used as the scavenging pump for the engine's dry sump lubrication system) were treated by the Sanford process. This process hardens the surface of aluminum and increases its corrosion resistance. It also gives the surface a low coefficient of friction when the surface is oily, which makes it desirable for pistons. Another thing that makes it good for pistons is that it increases the surface's scuff resistance.

In 1955 Tony used stock crankshafts but this year he made his own. Every effort was taken to make the shafts as perfect as possible. They are beautiful examples of workmanship. Before any machining was done on the 400-pound billets of 4340 steel from which each crank was machined, they were sonic tested for internal flaws to eliminate the possibility of putting many hours of

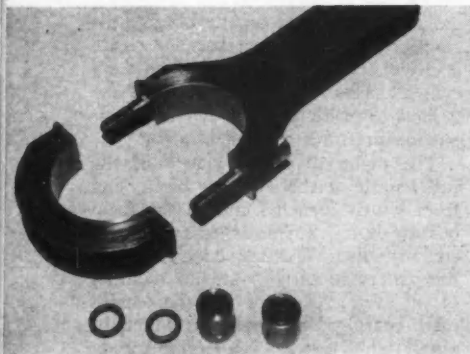
machining into one of them and then having a defect show up at a later date.

The shafts were rough-machined at Wil-Cap Co. and then they were stress-relieved at E & J Heat Treating Co. (Los Angeles). They were then finish-machined and returned to E & J to be heat-treated to 36 Rockwell. Next, their main bearing journals and crankpins were rough-ground by the Crankshaft Co. (Los Angeles) and they were shot-peened on all their surfaces before the journals and crankpins were finish-ground. The final operation was balancing the shafts to the weights of their connecting rod and piston assemblies. This was done by Edelbrock Equipment Co. (Los Angeles). From time to time the shafts were Magnafluxed to determine whether any flaws had been created in them by the preceding operations.

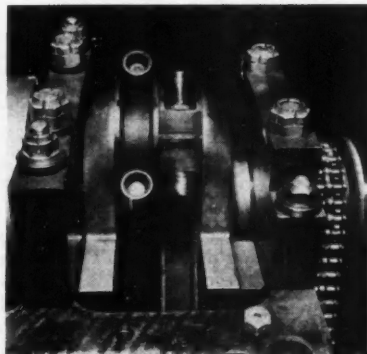
In their finished form the shafts weigh 68 pounds each, compared to 65 pounds for stock shafts. Some of this extra weight is due to their eight counterweights (which is two more than on stock shafts) and their 2.500-inch diameter main bearing journals and 2.400-inch crankpins.

**IN 1955 TONY ALSO USED** stock connecting rods but this year he took the big jump and for safety's sake decided to

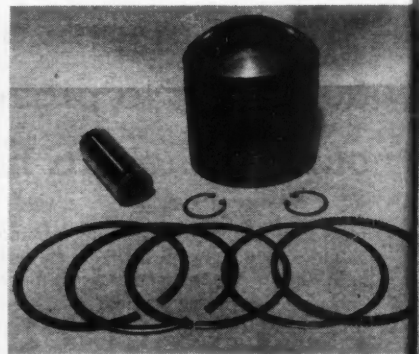
PHOTOS BY BOB D'OLIVO, DON FRANCISCO



**SPECIAL** connecting rod with cap removed. Bearing inserts are in place.



**NOT MUCH ROOM** in crankcase after crankshaft, rods have been fitted.



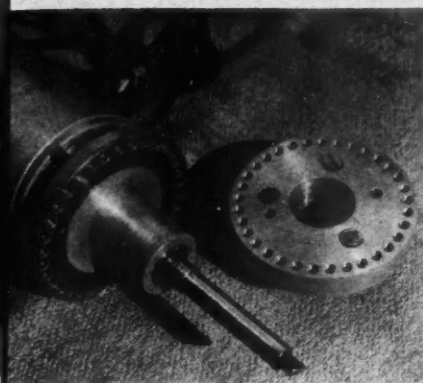
**PISTON**, pin locks, piston pin, Perfect Circle rings used in the engine.

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to fit.

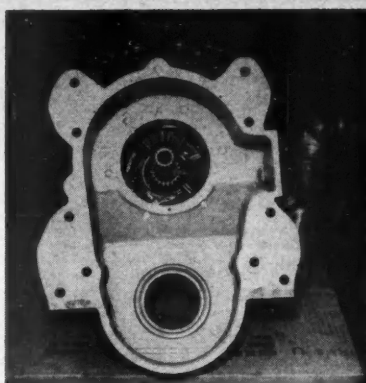
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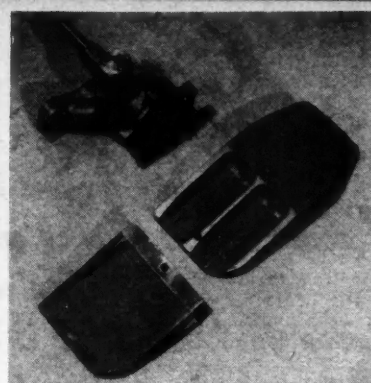
Per-  
engine.



**FLANGE** at right is magneto mount, has multiple holes for adjustment.



**DRIVE-END** of engine's accessory drive case is aluminum casting.



**STOCK OIL PUMP** works as scavenging pump in engine's dry sump system.

make his own. This was by no means a simple undertaking as there were several rods involved and there were no short cuts that could be taken. Each rod was machined from a billet of 6145 steel in the Wil-Cap Co. shop. All billets were sonic tested before the machining started. A metal-cutting band saw was used to cut the rods to their approximate shape and then they were machined to shape, ground on all their surfaces, and heat-treated to a hardness of 36 Rockwell. Next they were shot-peened, given a black Dulite treatment for appearance only, and crankshaft bearing and piston pin bores honed to size.

The rods use locked-in bearing inserts and they don't have piston pin bushings—the hard-chrome plated steel pins run directly on the material of the rods. Measured from the center of their pin bore to the center of their crankshaft bearing bore, the rods are 6.500 inches long, which is  $\frac{1}{16}$ -inch longer than stock rods. Bearing caps are held on the rods by  $\frac{1}{8}$ -inch diameter aircraft socket-head bolts and Allen internal wrenching nuts.

An assembly problem was created by the big-ends of the rods, which are so wide that they won't go through the cylinders. This made it impossible to install the rod and piston assemblies in the conventional manner by inserting

them in the upper end of the cylinders and then lowering the rods onto the crankshaft. The solution was to insert the small-end of each rod in the lower end of its respective cylinder and then push the rod into the cylinder far enough for its small-end to project above the top surface of the cylinder block. The piston's lower end was then inserted in the block and its pin bore aligned with the bore in the rod so the piston pin could be slipped through the piston and rod and be locked in place. So that the rods could be inserted far enough into the cylinders to enable the pins to be installed, it was necessary to machine notches in the lower ends of the cylinders for their big-ends.

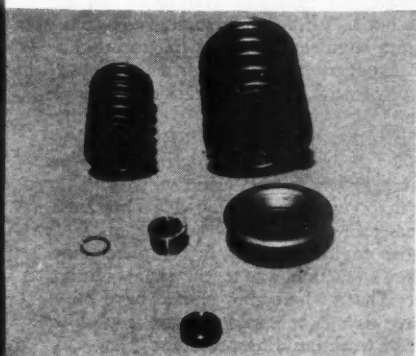
Cylinder heads are '57 DeSoto and they were ported by porting expert Ed Fletchal of Santa Fe Springs, Calif. Ports and passages in the heads were quite large in their stock form and the main things Ed did to them was smooth their surfaces and make them all uniform. The intakes were enlarged to the size of the ports in a Hilborn fuel injector and the exhausts were enlarged to the size of the openings in a stock exhaust manifold gasket. All valve ports were enlarged to the smaller diameter of the seats for the oversize valves installed.

Intake and exhaust valves were light-

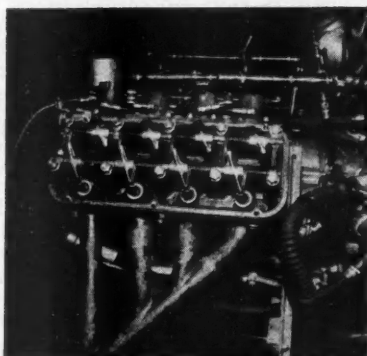
ened by removing excess material from their heads and by machining a deep concave area in the top of the heads to give them a tulip shape. Sharp edges on the heads were rounded to reduce the possibility of their becoming overheated and causing detonation. Another advantage of rounding the edges is that cracks are much less likely to start in a rounded edge than a sharp one.

Special valve spring retainer washers were made by Wil-Cap from 4130 steel heat-treated to 45 Rockwell. Locks used in the retainers are from Japanese motorcycle engines. These locks differ in principle from split locks used in American engines in that they require only a very narrow and shallow groove in the valve stem instead of a wide, deep groove. The lock is a small split collet with a straight inner bore and a tapered outer surface to match the taper in the retainer washer. At three points around its circumference the collet is slotted through most of its thickness to increase its flexibility. When the collet is in place on the valve stem, the taper in the washer causes it to grip the stem tightly. A small-diameter spring steel lock ring that fits in the shallow groove near the end of the stem prevents the collet from coming off the stem. A recess in the upper end of the collet fits around the

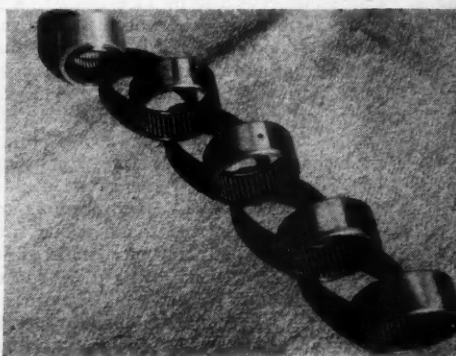
continued on page 60



**VALVE SPRINGS**, lock ring, stem lock, spring washer and cap used in mill.



**ROCKER ARMS**, fitted with needle bearings, run on special hardened shaft.



**NEEDLE BEARINGS** installed in block carry camshafts, reduce friction.

***Behind every product is a man—  
and a dream. America on wheels was  
Henry Ford's dream come true.  
Semon Knudsen's dream is to make Pontiac  
second only to Chevrolet at General  
Motors—and here's how he personally  
is heading out to do it.***

# KNUDSEN



**O**UR STORY BEGINS shortly after 8 A.M., Thursday, June 28, 1956. Verne Bower, Pontiac plant guard for 21 years, had just logged in a black Cadillac driven by Semon Knudsen, who seven years before, had left as an assistant master mechanic.

"Verne, have you a place for me to park?" queried Knudsen. "I've an appointment with Mr. Critchfield, the General Manager."

"Certainly, leave the keys and I'll take care of it," replied Verne. A few minutes later an Oldsmobile pulled into the same garage and L. C. Goad (GM Executive Vice-President) parked and went upstairs to Critchfield's office. Within the hour Mr. Goad came back and drove away, leaving plant telephones hot with news. By 10 A.M. local newspapers had the story, and Pontiac's new General Manager, Semon Knudsen, was inspecting his plant and assembly lines.

The following morning Knudsen headed for the GM Styling Center and his first look at the proposed 1957 Pontiac, then only 30 days from pilot production and 60 days from actual production. In a viewing yard, hidden behind the auditorium, was a shiny Fiberglassed sedan, complete to the latest changes. Knudsen walked around the car several times, backed off and examined it from a distance. Then he walked to the front and stood for a minute, as the stylists, realizing something was happening, held their breath and stopped complimenting each other. Knudsen was quiet. He just looked.

Suddenly, as if unable to contain himself any longer, he exploded to the group at large. "Let's take the Silver Streaks off! That's the biggest change we could make, and I don't want to see anything like them showing up on Pontiac again."

Silence hung like a thundercloud, waiting for a brave mouth to disagree. Someone stammered, "But . . . your father put them on in 1935." Other voices spoke up, "Pilot production is scheduled in 30 days." "The car is jelled, we just can't change it." And tooling engineers were making impolite noises about tooling that couldn't possibly be revised to meet the announcement date. Then, almost as a single person, the group discovered Knudsen hadn't heard a thing they said.

He had walked off.

While the viewing group was discussing Knudsen's absence, a plant telephone rang. One of GM President Harlow Curtice began talking to Knudsen. Mr. Curtice answered, "There's a new message, then said, 'Well, why don't you take a look at it.' In the viewing yard, voices were still talking about the removal of Silver Streaks while Knudsen was having his second telephone call. This one was to factory engineers. "Find out if tooling and production schedules can be revised to make a hood change."

Monday, five days after becoming General Manager, Knudsen and his staff were in the viewing yard again. Now the Fiberglassed '57 had no Silver Streaks, hood grooves were filled and the car had been repainted. It looked good. Production agreed that if suppliers would hold up parts shipments for two weeks, and toolmakers worked around the clock, a change could be made. Again Knudsen called Curtice. This time it was to announce the quickest major change ever to hit Pontiac. "The streaks are off!"

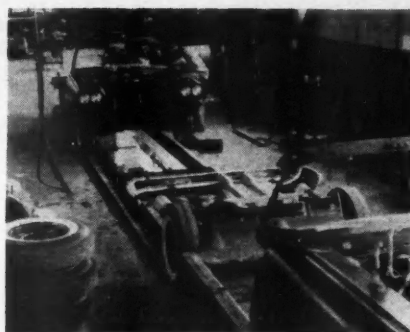
**THAT IT'S EASIER TO SAY** than do was never more aptly illustrated than by the difficulty of changing over from '56s to '57s while restyling a hood. While the factory was completing its '56 model run, engineering was trying to build a few '57s on the same production line. The first '57 frame started down the line: suspension, driveline, transmission and engine, then body drop. But something didn't fit, and the entire line stopped. Not just one car, but all cars—plus four miles of conveyers loaded with everything from cushions to engines. The line re-started, only to stop again when the '57 fender group wouldn't fit. Someone had installed '56 brackets. In no time at all the assembly line was a swarming mass of idle workers and nervous engineers trying to complete their "first run" cars. Knudsen's reaction was to the point. "Build 'em on a separate line. That's where they should have been in the first place." Three days later a seldom used truck line was dusted off and put to work building prototype '57s.

Once the '57s were underway, Knudsen began casting about to improve the product. Inspection was told, "I want you to have a new car off the line for me every day. I'll know for

continued on page 32



*"What's the matter, fellows . . . didn't they get the hub for that steering wheel yet?"*



*"We could always put a rubber grommet around the wiring to keep the wind out."*



*"Okay, so it costs \$4000. We've got to fix it so that the indicator can be replaced in service."*

# Man and His Car

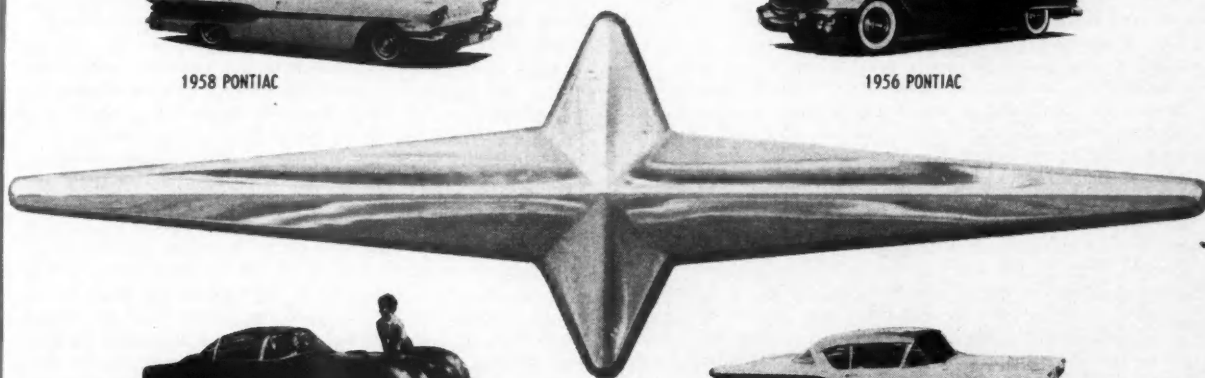
Story and Photos by William Carroll



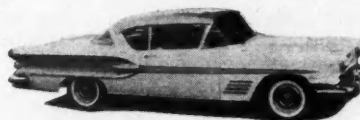
1958 PONTIAC



1956 PONTIAC



1954 MOTORAMA BONNEVILLE



1958 BONNEVILLE

**CHANGES WROUGHT** by Knudsen and staff are apparent in the comparison of '56 and '58 Pontiacs. Only relation between '58 Bonneville and Bonneville Motorama "dream car" of '54 is in name.



*"How come this unit is short the radio antenna motor? All the others came through on time."*

## Knudsen's secret:

*"So he started to write the ticket, and I was stuck for a \$30 fine."*



continued from page 30

sure what kind of work you're doing." So each day a new Pontiac was delivered to Knudsen's parking slot. Then he could drive a different car home at night over roads so rough that inspectors have threatened to "pass the hat" and pay for paving the route. Then next morning the car would be back with an arm-long list of complaints. Soon Knudsen ordered every new Pontiac to be driven from the assembly line to the paint refinish shop by a qualified inspector. During this half-mile test run, each car is checked for rattles over a series of steel rails imbedded in concrete, for handling, braking, transmission operation and radio noise.

**SOME MONTHS LATER**, rough chrome on the '57 bumpers bothered Knudsen and he called it to the attention of Buel Starr, Manufacturing Manager. As Mr. Starr told us, "I decided to find out if he really wanted quality, or was just whistling in the dark. Our men checked on the plating operation and concluded it would take a \$3000 investment to produce better chrome. I wasn't in his office two minutes with these figures before Knudsen agreed. We got the new equipment two weeks later."

Meanwhile Knudsen was busily getting both feet wet with the proposed 1958 cars. Clay models were scattered all over the Styling Studio, each with script identifying them as the Pontiac Ventura. But when it was recalled that another company had already used Ventura for a dream car, someone suggested "Bonneville." As Knudsen says, "It was our name, so we grabbed it." This was back in 1956, when Bonneville was scheduled for production as 1958 models. A few weeks later, the Rochester Carburetor people made their fuel injection unit available to Pontiac for 1957. Knudsen wanted to make the biggest possible splash with his "streakless" cars and argued long and loud for release of F.I. as an option for every model. On the other side of the fence, Chief Engineer Pete Estes stood pat for releasing F.I. in a limited number of cars "for dealers only, until we gain some experience with it." Pete won, and 1500 Bonneville convertibles were scheduled for release to dealers only, with the first car off the line February 5, 1957 for shipment to Hawaii.

Out-voted by his management committee on the F.I. option, Knudsen ordered a Bonneville with bucket seats for use at the 1957 Daytona Beach Speedweeks. Not only did

Pontiac sweep the beach, but Knudsen's bucket seats fired the imagination of every prospective car buyer who saw them. Back at the factory he shot a memo to Manufacturing, "Schedule buckets for every 1958 Bonneville." But the factory didn't know how to make bucket seats in production quantity, and Sales was screaming with wounded indignation about a "family sports car with no room for children." Compromises were in order. Manufacturing figured out how to make buckets and Knudsen agreed they would be an option, rather than standard equipment.

Meanwhile at Pontiac's Styling Studio every man of the team was burning midnight oil trying to come up with new design features for '58. Eight different types of side trim were drawn, built and displayed, before one was accepted as best. Wheel discs were designed, then redesigned all over again. Grooves were channeled, then removed from the trunk lids, only to end up as "for Bonneville only." Fender ornaments were changed almost daily, while cars were built with differing fender treatments on opposite sides. A cost engineer complained about the expense of putting rubber gaskets between headlight rims and the fender. "Whether you like them or not," Knudsen told the man, "we need them to keep the paint from chipping."

Tooling was well underway before Knudsen got around to paying much attention to the '58 instrument panel. "That's no good," he said, "We've got to have something hot." Turning to a nearby 'phone he called the Fisher Body people to see if they could scrap the old tooling and begin anew, while still meeting production deadlines. They could. So for the next few days Pontiac's Interior Design Group was in an around-the-clock sweat preparing sketches of new ideas, with Knudsen and Estes checking them daily. Finally, drawings of a panel used in a Cadillac show car of some years back (the Le Mans) were selected—although at one time the same panel was considered too expensive for Caddy. (?)

The following day AC Instrument Division engineers, Fisher Body people and Pontiac production men, as one stylist puts it, "had the styling studio in the damndest mess it had ever been for years." Excitement and "hurry up" were orders of the day as Knudsen pushed through his "hot" dash.

In what spare time was left, he continued badgering the engineering department into making changes right and left.

secret: keeping his finger on all the details of design and production

*"What's the matter, Estes?  
Don't you like boudoir pink . . . ?"*



*"Jack, let's watch that trim strip. It'll cause  
production trouble unless inspection is on its toes."*



Moved ahead of schedule for the '58s were such bits as galvanized sheet metal resonators to eliminate rust-outs, thicker exhaust pipes to reduce noise, carpets in all models to improve appearances, and engines that flew. Originally the Chieftain series was to have used leaf springs in the rear. In this case, Pete Estes convinced Knudsen that buyers of the less expensive cars should have benefits of Air Ride or coil springs. So they have.

**DURING DEVELOPMENT OF THE '58s** someone mounted spotlights on a prototype convertible. When Knudsen saw them he hit the ceiling. "Those things look like the devil. Take them off. We're selling cars, not accessories." So the spots came off. On the other hand, during an accessory style meeting, the Delco people arrived to demonstrate their new portable auto radio. No salesmanship was necessary. Knudsen no sooner saw the tiny music box than he took off like a bear hunting for dinner. "Broth-ur, here's a red-hot item. And don't let anyone start picking on this radio. It's going in and that's that." Because, as Sales Manager Frank Bridges told us later: all automobile makers are selling good transportation—it's conversation pieces (such as a portable radio) that make a car different.

Finally first parts for the '58 models arrived at the abbreviated assembly line on which pilot (sample) production was to be built: frames, differentials, front suspension, engines, transmissions, bodies and sheet metal. Here production foremen, working under direction of section engineers (Suspension, Body, etc.), began putting parts together and solving the endless problems of building a completely new car. The pilot line soon paid off for everyone.

Knudsen was there, too, as Bill deBeaubien, Air Conditioning Engineer, can tell you. Bill was sweating under the cowl of a new hardtop while trying to drill holes for control cables. His exasperation had almost reached the point of explosion when a gruff voice added to the problem by shouting, "You'll have to speed up your work rate to keep up with the line when these cars start rolling." Bill dropped his electric drill and came out of the car ready to do battle—only to reach a screeching halt when he found the voice belonged to Knudsen.

After the first '58 came off the short line it was displayed

to Pontiac's management team. And as one engineer said, "Knudsen tried his damndest to find something wrong, but we had detailed the car to perfection." Not so lucky was the second car, a gorgeous red convertible. We watched Knudsen check it out and give a seven-item "squawk" list to Chief Inspector Jack Blamy.

We asked Knudsen what he *didn't* like about the '58s. His answer: "I'm a little too impetuous, so on second thought there are some things on the car I don't care for. I think our rear fender droops when it should be straighter. Why I didn't catch it at first, I don't know. I'd like to have seen the roof a little thinner and more room for feet, but we had a compromise situation there with our new 'X' frame. As a whole though, I like it."

Finally we mentioned his announced intention of making Pontiac the Number Two car of GM. How was he going to do this?

Knudsen's reply nutshellled his impact on Pontiac. "I'm going to make Pontiac so good, that anyone leaving the low-price field will have to go no further. We'll offer everything the bigger cars have, plus a lower price." /MT



*"We've got the hottest line of cars for '58  
that Pontiac has ever had. If you can't sell these,  
you'd have trouble giving diamonds away."*

# **"My Greatest Thrill"**

## **FANGIO'S RECORD LAP**

**"I knew it was going to be difficult, but I just had to win that race . . . I had never driven like that before, and I never want to again."**

as told to Gordon Wilkins

**A**UGUST 4, 1957 was the date. 90,000 spectators lined the humps, bumps, swerves and switchbacks of the world's most difficult race circuit, the Nurburgring in Germany's Eifel Mountains, to see the 19th German Grand Prix. They expected an interesting if not eventful struggle between the Ferrari and Maserati teams, with the British Vanwalls intervening—but not decisively—for they were handicapped by chassis and suspension systems ill-adapted to the merciless beating a car receives on the Ring. What they saw was an exhibition of driving which marked the highest achievement of the greatest driver the world has ever seen.

Practice runs had shown Fangio at the top of his unbeatable form. On the preceding Friday he had slashed a whole 16 seconds off his record lap of the previous year, drifting the amazing number of 160 corners and bends of the circuit with superb skill and impeccable judgment. But the omens were against him. The battering the car received had damaged his de Dion axle and the pundits pointed out that no Maserati had ever won the German Grand Prix. Fangio was supported by Behra, Shell and Scarlatti, all on six-cylinder Formula I Maserati single-seaters. Against them were ranged the works Ferraris of Collins, Hawthorn and Musso, the Vanwalls of Moss, Brooks and Lewis-Evans, and the privately entered Maseratis of Masten Gregory, Herrmann, Gould, Godia and Halford. Bringing up the rear were nine Formula II 1.5-liter machines, including Salvadori's Cooper and the Porsche of the East German champion Barth.

Ferrari reckoned to run through the 22 laps of the 14-mile circuit non-stop; but team manager Ugo-lini, anxious to spare the chassis of his Maseratis all unnecessary stress, had decided to start his cars with tanks half full, pulling them in at half distance to refuel and change rear tires.

As the starter dropped the flag and the cars surged forward in a blare of sound for the 3½-hour grind, Hawthorn took the lead. After two laps Fangio, with a light fuel load, went swiftly past and began to build up a lead which would allow time for his mid-race stop. Behind him Hawthorn and Collins traded places, while Behra held fourth spot, but the first half of the race was uneventful, except for the announcement that Fangio had put in a new record lap in 9 minutes 30.8 seconds at 89.35 mph.

Behra was the first of the Maserati team to stop, and then Fangio came in after 10 laps. It now seemed clear that the Ferraris were not intending to stop at all and the crowd watched breathlessly as the mechanics slaved to change those rear wheels and get the tank filled. They got through in about 53 seconds, but it was too long, for while the long lean Maserati lay stationary at the pits both Hawthorn and Collins snarled past to take the lead.

Weeks later, while we were lunching together at the R.A.C. in London, I asked Fangio what his thoughts were at this moment. "I knew it was going to be difficult to win," he said, "but I was still calm—*sempre tranquillo*. I thought at least I might catch Collins and take second place."

So he set off relentlessly snicking off a fraction of a second here and there, braking a little later, and drifting the corners at a more acute angle than he had before.

Collins closed on Hawthorn with a lap in 9 minutes 28.9 seconds and with nine laps to go Hawthorn

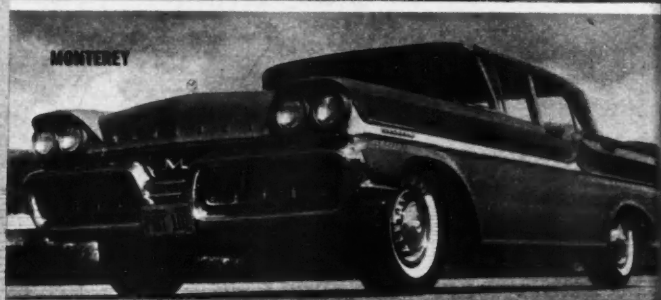
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**FANGIO OVERTAKING COLLINS ON AN INSIDE TURN  
AT NURBURGRING, ILLUSTRATED BY CARLO DEMAND**



# 2 MERCS ON TRIAL

Testing the Monterey and Park Lane proves that "The Big M" stands not only for big size but also for big engines and big performance



## A MOTOR TREND RESEARCH REPORT by Don Francisco

**I**F YOU'RE IN A HURRY and have to make a choice between stopping behind a '57 or a '58 Mercury at a stop light, and you can tell the difference between them, take a chance on the '58. If it isn't a Medalist chances are that when the light turns green it will be long gone before the '57 takes the slack out of its driveline. The old and the new Mercs are no longer brothers under the tin. Under the sheet metal, the '58 Monterey, Montclair and Park Lane differ from the '57 models as Zsa Zsa differs from Zasu.

So that I could get the full impact of the new Mercury line, I was given a Park Lane four-door Phaeton and a Monterey four-door to test. The economy car of the line — the Medalist — wasn't available at the time of the test but this wasn't important because it is so similar to the '57 models.

The big news about the '58 Mercurys is their new "Marauder" engines, and man, they're something. One of them is a monster of 430 cubic inches and the other is a comparative midget of 383 inches. Both engines have the same cylinder bore of 4.3 inches but they have different stroke lengths. These are big engines, in any company, and the 430 is the largest passenger-car engine in the industry; the 383 is fourth from the top. They are big, husky critters that wouldn't be out of place under the hood of a truck and they manage to pull the cars in which they are installed up or down any road without straining.

Their displacement, combustion chambers, and valve displacement are the main features that make Marauder engines so different from previous Mercury overhead valve powerplants. Combustion chambers are formed by milling the top of the cylinder block on an angle of 10 degrees with the cylinders. The valve placement differs from the ordinary in that the valves have been repositioned in the heads so that no two exhaust valves are next to each other. This is said to eliminate local hot spots in the heads that might cause pre-ignition.

The intake manifold is heated by water from the cooling system. This eliminates the need for a manifold heat control valve in the exhaust system. However, there is a hot air

stove on the left exhaust manifold through which warm air is inducted into the engine to help vaporize the fuel until the water in the cooling system and intake manifold reach their operating temperatures. When the manifold is hot enough, a valve in the hot air stove opens to let cold air enter the engine.

To bring the water in the cooling system up to operating temperature as quickly as possible, the engine is fitted with three thermostats. Two of the thermostats are located in the water outlets in the front of the cylinder block and the other one is in the water outlet in the intake manifold. During the first stage of cooling all the thermostats are closed and water circulates only in the cylinder heads and intake manifolds. For the second stage the thermostats in the block open and water circulates through the block as well as through the heads and manifold. For the third stage all the thermostats are open, allowing water to circulate through the radiator as well as the engine. The thermostats in the block open at approximately 142° F, and the one in the intake manifold opens at approximately 162°.

All standard Marauder engines have single four-throat carburetors. The "Super Marauder," which is optional in all models, has three dual-throat carburetors on a special aluminum intake manifold.

Camshafts in the engines are of alloy iron and they are said to incorporate larger check valves and larger orifices for optimum quietness at all engine speeds. The heads of the valves are of large diameter, as they must be for engines that have the displacement these have, and they are aluminum coated to add to their durability. The diameter of the valve stems has been increased to give them more strength. Pushrods are of solid steel and the ratio of the rocker arms has been increased to 1.76 to 1.

The valve springs are twice the size of ordinary springs and they have more tension than most of the special springs used with reground camshafts. They are real brutes. All valves are fitted with Ford's free-valve rotators — these aren't really rotators in the true sense of the word because

instead of exerting a force on the valves to rotate them, they reduce the friction between the valve stems and the spring keeper washers so the natural vibration of the springs will cause the valves to rotate. A valve that rotates will have a much longer life than one that remains stationary in its guide.

The fuel pump has been placed on top of the timing chain cover, where it gets a blast of air from the engine fan. The vacuum pump has been taken off the fuel pump and added to the oil pump, which is now in the crankcase and is of the rotor type instead of the gear type used on previous engines. Taking the vacuum pump off the fuel pump relieved most of the load on the camshaft lobe that actuates the fuel pump. All the oil from the oil pump is filtered by a full-flow filter at the left front of the cylinder block before it reaches the engine's bearings. The filter's cartridge can be removed easily from beneath the car.

The power steering pump is now bolted to the front of the timing chain cover and it is driven directly by the crankshaft. Driving the pump in this manner eliminates the belts and pulleys used on earlier engines and also does away with the noise the belts made when they got a little loose and the front wheels were turned all the way one way or the other. This noise was caused by the belts slipping on the pulleys.

A big engine in a light chassis has always been the ideal of hot rodders, and these Mercs are the closest thing to this ideal that Detroit has ever produced. The chassis aren't as light as they might be but the engines are big enough to handle the weight. An engine with an abundance of cubic inches has the advantage over one with fewer inches of being able to create a higher torque output at low engine

speeds, and torque is the measure of an engine's ability to accelerate a car; however, there is another thing that enters into acceleration ability, and that is the gear ratio in the car's rear axle. The lower the ratio, the better the acceleration, and vice-versa.

The old saying is that "seeing is believing" but for the new Mercurys tradition is going to have to yield. You can look at one of the new Mercs from now on and not find a thing to believe. But change the saying to "feeling is believing" and you've got a winner. One feel with the seat of your pants just might make you a believer. Mercurys for '58 are big cars in every sense of the word, and although they aren't as big or heavy as a few of the so-called luxury cars, they are definitely out of the Ford-Chevy-Plymouth class. But they are big cars a man can enjoy driving, and of big cars that are enjoyable to drive "there ain't many today."

**THIS IS THE FIRST YEAR** for Mercury's new Multi-Matic transmission. The Multi-Matic is a three-speed box that is an improved version of the standard Merc-O-Matic. It can be used as either a two- or three-speed unit by pushing the desired button on the transmission control panel. The button for two-speed operation is marked "Cruising Range" and the one for three-speed is marked "High Performance Range." The difference in the two ranges is that in High Performance the car starts in the bottom of the three speeds and the transmission shifts twice to reach high gear, and in Cruising Range it starts in the middle of the three gears and shifts once. The same second and high gears are used in both ranges. In high gear with either the Multi-Matic or the standard Merc-O-Matic engine torque flows straight through the transmission.

continued

PHOTOS BY BOB D'OLIVO, JOE WHERRY



DYNAMOMETER TESTS gave 173 maximum horsepower at full load in second gear for Park Lane, 162 for Monterey engine.

# 2 MERCS ON TRIAL

continued

In High Performance Range the Multi-Matic upshifts from low to second at approximately 50 mph, with the throttle pedal on the floor, and from second to high at approximately 74 mph. In Cruising Range the transmission upshifts from second to high at the same speed as when it is in High Performance. In High Performance it downshifts to low when the throttle is kicked open at speeds below approximately 35 mph. In Cruising Range low gear cannot be engaged.

Pushing the "Hill Control" button at speeds above approximately 25 mph causes the transmission to downshift to second gear and at speeds below 25 mph the downshift is to low gear. Once the transmission has shifted to low gear it will remain in that gear until another button is pushed. The Multi-Matic also has a hill-holder that prevents the car from rolling backward on hills when the transmission is in Cruising Range and the engine is running.

The standard Merc-O-Matic is also controlled by push-buttons but it has only one button for normal driving. This button is marked "Cruising Range." In Cruising Range the transmission starts in second gear when the throttle is partially depressed. If the throttle is kicked to the floor when the car is at rest or moving at a speed below 35 mph the transmission will downshift to low gear for maximum acceleration and upshift to second and high at approximately the same speeds as the Multi-Matic. At speeds between 35 and 65 it will downshift to second gear when the throttle is kicked to the floor.

Pushing the "Hill Control" button at any speed above 25 mph shifts the transmission into second, where it will stay until car speed drops to approximately 25 mph. Under 25 mph the transmission shifts into low. It then stays in low gear until another button is pushed.

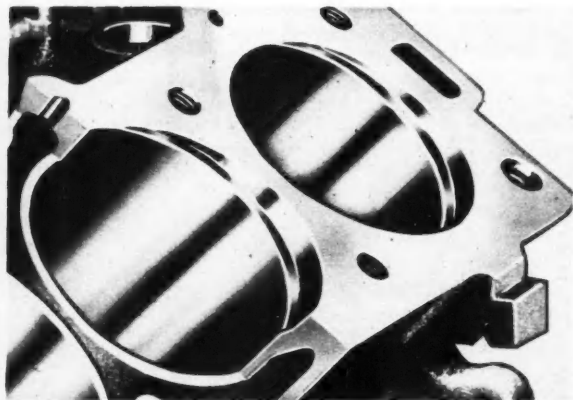
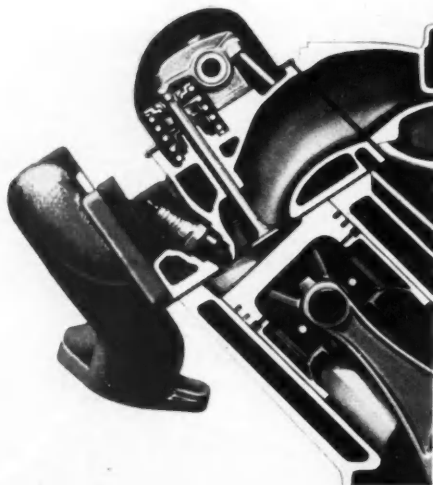
The Park Lane I tested had a 430-inch engine with a four-barrel carburetor, Multi-Matic transmission, power seat, power windows, and all the other deluxe items. The Monterey had a 383-inch engine and a standard Merc-O-Matic. It was the economy model without any power equipment.

MERCURY HAS NULLIFIED some of the acceleration potential of their new cars by fitting them with the highest rear axle ratios in the industry. Cars with 430-inch engines have 2.91 to 1 axle gears and cars with 383 engines have 2.69 to 1 gears. The reason for the higher ratio in cars with the smaller engine, which doesn't make sense to performance-minded drivers, is to boost the fuel mileage of these cars. Either of the ratios gives the same effect as an overdrive in a car with a synchromesh gearbox while at the same time allowing the ease of driving made possible only by an automatic transmission. This is the effect for which the engineers were striving.

Some of the advertising the Ford Motor Co. is putting out on their '58 models stresses the angle of better fuel mileage as a result of the higher rear axle ratios but the higher ratios have other benefits that are equally enjoyable. Among these is the pleasant advantage of quiet cruising at any car speed because in high gear the engine is not turning fast enough to stir up a fuss. At 60 mph a sharpie with a good ear can count the explosions in the cylinders.

Although the high rear axle gears take some of the edge off the going ability of the cars, there is more than enough left over for anything but drag racing. Acceleration with the high ratios is excellent. At any speed up to about 60 mph either test car would jump when the throttle pedal was moved. The pedal didn't have to be kicked to the floor to get the car moving; car speed increased in proportion to throttle movement. There was none of the old pushing the pedal and then waiting for the car to catch up.

The Park Lane ran well enough for average driving with its transmission selector in Cruising Range but it got out of the chute considerably faster with the selector in High Performance. When the throttle in the Monterey was floored to downshift the transmission to low, the car would spin its rear tires for a few feet while it was getting going. Between the time the throttle was opened and the time the car started to move there was a fraction of a second delay while the slack was being taken up in the things in the hydraulic torque converter and transmission. Then the wheels would start to turn and the car would begin a steady rate of acceleration until the throttle was eased off. This delay wasn't nearly as noticeable with the Multi-Matic; however, it is possible that the adjustment of the Merc-O-Matic could have had something to do with this condition.



BIG 430-CUBIC-INCH ENGINE has fully-polished combustion chamber in block; top of cylinder block is machined at an angle of 10 degrees with the cylinders.

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Both '58 transmissions are a long day's trot ahead of earlier Merc-O-Matics and I would venture to say that from the driver's standpoint the Multi-Matic, and its counterparts used in other Ford products, is the best automatic transmission in the industry. This endorsement does not include the push-button control for the transmission, which is one of the worst engineering blunders I have seen in a long time.

Pushbuttons are without a doubt the clumsiest method ever devised for making gear selections in an automatic transmission. The main thing against them is that it is difficult to find the right button without looking at the panel each time the engine is to be started or a change of transmission range is to be made. And the mechanism out of sight behind the panel is just more stuff to get out of adjustment and cause trouble. If the driver isn't careful with pushbuttons it is easy to push the wrong one, especially when he wants to engage the hill retarder gear. If the button pushed isn't pushed far enough the transmission goes into neutral, and this could happen at the wrong time for safe driving. A guy who does a lot of stop-and-go driving could get "automation finger" from pushing all the buttons.

**THE EXCELLENT LOW SPEED PERFORMANCE** of both cars makes them easy to drive in traffic. All the acceleration any driver would ever need is on instant demand, giving him complete control of the car and enabling him to take advantage of any breaks or openings he might see. This makes for happy driving because in traffic there is nothing more frustrating, or dangerous, than a sluggish car. A touch of the throttle keeps the car ahead of traffic and there is seldom any necessity to push the throttle to the floor to engage passing gear.

At speeds over approximately 60 mph the cars lose some of their punch but they still accelerate better than most of the cars they will be passing. The only thing wrong with them for highway cruising is that there is so little noise from the engine compartment and wind noise is so low that if one isn't careful he will repeatedly catch himself driving over the speed limit.

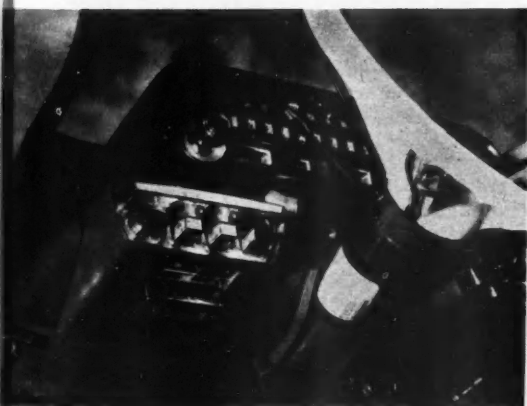
One thing about the performance of both engines during high-speed acceleration that wasn't off the top of the barrel was the action of the secondary throttle valves in the carburetors. These valves are actuated by vacuum created in the carburetor's primary throats and the driver has no control over their opening and closing times. The result when the accelerator pedal is kicked to the floor is a smooth flow of

power until the secondaries open and then the car gives a mild but noticeable lurch and charges on until the accelerator pedal is allowed to lift a little to allow the car to resume normal cruising speed again. Then the secondaries close and the car lurches again, this time severely.

Disregarding the carburetor throttle action, the only thing I could find wrong with the engines, and it wouldn't take a Pinkerton man to find this fault, was a bad detonation problem. The detonation was noticeable on acceleration, at any speed but most pronounced at lower speeds, and it grew worse as mileage on the engines allowed carbon to build up in their combustion chambers. The detonation was worse in the Monterey than in the Park Lane but this was probably due to the leaner air/fuel mixture delivered by the Monterey's carburetor. The mixture in the Monterey was so lean that the engine surged on steady throttle at normal cruising speeds. Surging is a condition that would vary with altitude and could be eliminated by installing richer metering jets in the carburetor.

Detonation can be harmful to an engine. When a manufacturer brings out a model that is afflicted with it to such a degree as the new Mercs, there must be a good reason. The story behind the Mercury problem is that when these engines were in the design stage the engineers on the project were assured by the petroleum industry that the minimum rating of premium grades of gasoline in all areas of the country when the engines would be available to the public would be 98 octane. With this assurance, a compression ratio of 10.5 to 1 was decided on and subsequent tests with the engines showed them to be free of detonation with this ratio and 98-octane fuel. Then, when the cars were released to the public, trouble with detonation was noticed immediately because in some areas of the country, including Los Angeles, the octane rating of premium gasoline was not up to the promised 98. However, while this test was being conducted, some of the major oil companies in the Los Angeles area introduced their new gasolines with octane ratings of at least 98.

In areas where 98-octane gasoline is not readily available, detonation will be a problem requiring some mechanical adjustment to the engine or its accessories. The nature of the detonation would indicate it could be eliminated by altering the advance curve in the distributor or by installing another distributor of a different type. These engines are good enough to deserve the best ignition system available and at the present time they may not have it. Normal meth-



**PUSHBUTTON CONTROL PANEL** for gearbox hides transmission locking lever immediately below. Sub-dash position can mean extra blind fumbling.

#### Acceleration

MONTEREY (330-hp engine)		PARK LANE (380-hp engine)	
		Cruising Range	High Perf. Range
0-45	5.9 secs	8.2 secs	8.2 secs
0-60	9.5	12.4	10.0
Quarter-mile	17.7 & 63 mph	19.5 & 70.5 mph	18.0 & 69.5 mph
30-50	3.4	—	3.4
45-60	3.5	—	3.5
50-60	9.3	—	10.0

#### Fuel Consumption

Stop-and-go Driving 12.4 mpg for 222 miles 11.2 mpg for 200 miles  
 Highway Driving 18.5 mpg for 473 miles 19.3 mpg for 1004 miles  
 Fuel Used: Mobilgas Special

# 2 MERCYS ON TRIAL

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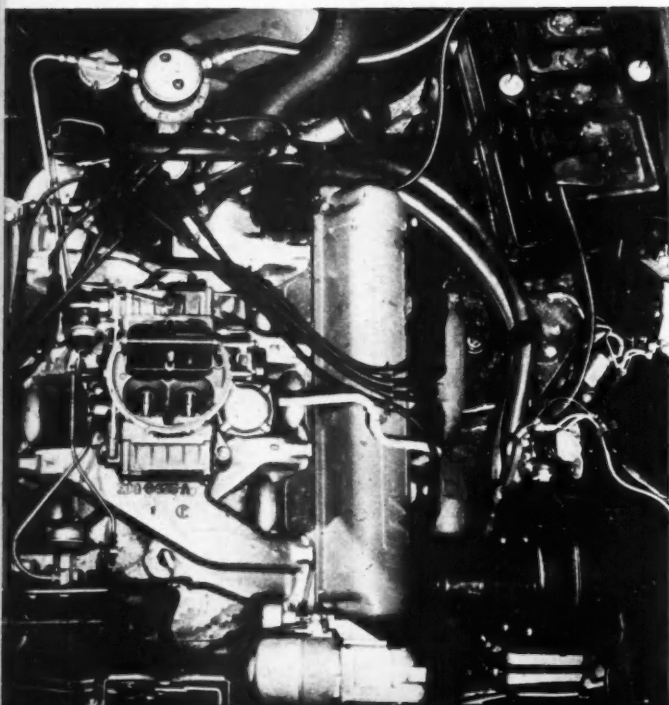
ods of killing the detonation would be by enriching the fuel mixture, retarding ignition time, or by combinations of both.

The power steering on Ford products has always been the best and the Mercury version in the Park Lane is excellent as far as feel is concerned; however, the ratio is too low for easy steering around right angle corners and in cramped spots. A guy could wear his arms out turning the wheel and this isn't necessary with the power assist. A higher ratio would be much better for slow speed stuff and it wouldn't hurt anything at high speeds.

The steering in the Monterey was not power assisted but while the car was moving it felt about the same as the power version. When the Monterey was stopped, or nearly so, its steering wheel was harder to turn than the wheel in the Park Lane but the difference was not too great. The additional resistance would be noticed most by women drivers. The ratio of the steering seemed to be about the same as that in the Park Lane and even without the power assist it was much too slow. A full one and one-half turns of the wheel was necessary to turn the car around a right angle corner. This is ridiculous to the point of being dangerous.

Mercury has an air suspension system that is available as optional equipment but the cars I tested had conventional suspension, consisting of coil springs on the front and longitudinal leaf springs on the rear, that does a good job of providing a smooth ride on all types of roads. The wheels on any car are continually moving up and down as they follow the surface of the road; in the Mercs the wheels must not be too well insulated from the frame because much of

**NEW "MARAUDER" ENGINE** is a monster of 430 cubic inches, largest passenger-car engine in the industry. Standard is a single four-throat carburetor; the "Super-Marauder" (optional) has three dual-throat carburetors.



their movement is transferred to the frame and body and then to the seats and passengers in the form of vibration. But although the vibration is noticeable by the passengers and could be eliminated without being missed, it isn't severe enough to keep me from liking the car.

On straight, level roads there was hardly any body movement to disturb the passengers. What movement there was from undulating road surfaces was mild and didn't cause any discomfort. There wasn't any of the pitching and wallowing that is so characteristic of cars as large and heavy as the Mercurys. When crossing dips at intersections of city streets the frame and body would drop as the wheels rolled into the dips and if the frame bottomed on the front suspension members or on the rear axle the parts came together so gently that the contact wasn't felt in the car. The rubber bumpers between the frame and the suspension members were probably responsible for the absence of severe contact. Coming out of the dips the frame and body would rise a little above their normal height and then settle to normal. All the motions were so well controlled by the shock absorbers that I began to enjoy driving fast through dips just for the unusual sensation of feeling the car take them so well.

On mountain roads, the Park Lane handled very well for a big car. When entering a turn it leaned less than average for a car of its size and then it held this position the rest of the way through the turn. The 24 pounds in the tires (cold tires) wasn't conducive to good cornering but despite the size of the car and the low pressure I always had a feeling of confidence in turns. The ride of the Monterey was firmer in all respects than that of the Park Lane, due, no doubt, to its shorter, stiffer rear springs, lighter weight, and shorter wheelbase, and it went through the turns flatter than the Park Lane. There are many smaller cars on the road that would have trouble keeping up with a Monterey in the mountains, either in the turns or on uphill stretches.

**VACUUM-ASSIST POWER BRAKES** are standard on the Park Lane and optional on other models; I would recommend them for easy driving. For a given pressure exerted by the driver on the brake pedal, the vacuum-assist boosts the pressure in the brake lines approximately 50 per cent. This is enough to take the work out of applying the brakes and makes it easy to drive with left foot braking. The brakes on the Monterey weren't power assisted and they required considerably more pedal pressure to stop the car.

Brakes on all Mercurys are self-adjusting. When their linings have worn a predetermined amount and the brakes are applied while the car is moving in reverse a simple linkage on the rear shoe of the brake assemblies rotates the adjusting star wheel that spreads the lower ends of the shoes. The mechanism works only in reverse so that the brakes won't be overtightened when their drums are hot.

The brakes on both cars stop the cars well at all normal speeds but the feeling of stopping lots of weight is felt by the driver. The reason for this may be that the cars really are heavy. It might be possible to eliminate this feeling, or at least reduce it, by providing more assistance with the booster but I believe that while there should be enough power assistance to make braking comfortable, there should not be so much that the driver loses the feeling that he is stopping what amounts in the Park Lane to a two-and-a-quarter-ton guided missile. With too much power assistance it is easy to lose the feeling of a car's weight and, as a result, become overconfident of the braking system's ability. Then, when something out of the ordinary happens, the driver is 'way over his head and he can't stop the car in time to keep from hitting someone or something or going into the ditch.

The usual **MOTOR TREND** brake fade test was conducted with both cars. This test consists of repeatedly braking the car at a rate of 15 feet per second per second from a speed of 60 mph to 20 mph until the brakes fail to stop the car.

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STORY BY TOM PROBST  
PHOTOS BY ROBERT MC GOWN

**\$9,000**

**STUTZ**

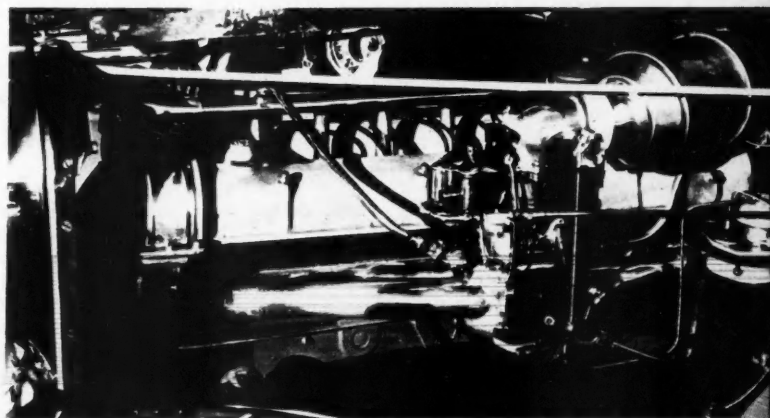
**T**HIS BEAUTIFULLY MAINTAINED STUTZ, although 26 years old, looks and acts as if it were 25 years younger. One of three in America, the magnificent 1932 Stutz DV-54 Weymann Monte Carlo sedan was once in the famous Cameron Peck collection of classics. Now owned by L. N. R. Miller of Minneapolis, the car is described by him as "the one Stutz I've always wanted!" You see, Miller has been driving Stutz cars since 1918, and he considers this particular machine to be the best one of all.

This Stutz is one of the famed 32-valve models. Stutz buyers in 1932 had a choice of 34 bodies with the DV engine on wheelbases of 145, 134.5 and 116 inches (Super Bearcat only). Optional on all models except the Super Bearcat was the SV engine with but one intake and one exhaust valve per cylinder. The SV engine, however, had twin ignition (two plugs for each cylinder) with two coils, two condensers and two sets of points. The DV engine had a single plug for each cylinder.

Miller's Stutz has less than 100,000 miles on it. Its original silk brocade upholstery has been replaced by something more prosaic, but Miller has plans to do the interior in leather. Top speed of the car is close to 100, with a comfortable cruising speed in the 70s. At speed the car settles down as if it were glued to the road, yet it is docile and smooth in traffic.

While his Monte Carlo Stutz is in practically Concours condition throughout, Miller possesses a unique "insurance policy" — in his backyard sits another DV Stutz which he can always use for parts, unless he decides to restore it too. /MT

one  
of three  
in  
AMERICA



STUTZ DV-54 ENGINE has 16 cylinders, a mechanical fuel pump, automatic intake-manifold heat control, and dual Schebler carburetors.



## WILL RAMBLER'S REV

**T**O QUOTE GEORGE ROMNEY, fireball President of American Motors, "Does anyone recall a period when car design was subjected to as much lampooning in newspaper and magazine cartoons? Or when there was as much editorial criticism of automobile size and horsepower? Or when so many public officials have expressed concern over these factors as they relate to safety, parking, traffic congestion, inflation—even the drain on our natural resources?"

Let's face it. The lampooning may be in fun, but the sales of small foreign cars, which also come in for their share of lampooning, are increasing by leaps and bounds. This can only mean that the buying public is becoming increasingly conscious of the need for mobility in a compact and economical package.

People as a daily necessity drive greater distances than ever before. There is a general trend toward movement to the suburbs. It has been forecast that the suburban population of 168 metropolitan areas will be up 82 per cent in 1975 as compared to 1957. This flight to the suburbs has resulted in about 16 million "captive" American wives. They are marooned at home every day because their husbands must use the family car. They want and need transportation, but for many of them the cost of maintaining and owning the one gleaming chromed monster in the driveway is already too great a strain on the family budget.

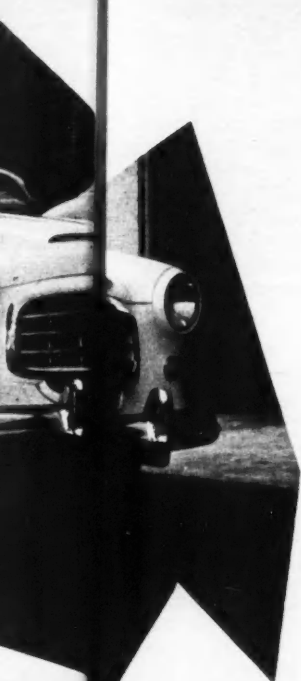
A booming population and constantly increasing car registration have spelled a state of traffic congestion on streets and highways which seems to stay far ahead of any con-

struction programs which might dispel it. The parking problem is becoming worse. The length of cars has cut down the number that can be parked at the curb, and the number that will fit into off-street lots has been drastically reduced.

During the past five years, our cars have been averaging 14 to 15 miles per gallon and burned 250 billion gallons of gasoline per year. If these cars could have averaged 20 miles per gallon, it would have saved 80 billion gallons per year. Dr. Donald Frey, Director of Engineering Research for Ford Motor Company, has been quoted in *Automotive News* as predicting that "American production of natural petroleum is likely to 'peak out' within the next 20 years, compelling the country to substitute fuels and to change to automobiles with greater fuel efficiency."

These were some of the factors which motivated American Motors to create the Rambler. George Romney, in summing it up, said "... Let's build an automobile for the American people that appeals as much to their native intelligence as to their ego. Let's build a car that has interior passenger comfort of the biggest cars but without the excessive dead weight that is the exclusive contribution of showy sheetmetal. By using single-unit construction and making the exterior of the car much more compact, we can cut down the overload on the engine, eliminating its tendency to become a bigger gas hog each year, and at the same time, make the car much easier to handle and park."

The battle to establish a reversal in design trends began in 1950 with the first Rambler. This car had a 100-inch



## What has been done to Rambler's small car to make it more appealing and better for you? How does it compare to Big Three? Will it give the imports tough competition?

A MOTOR TREND RESEARCH REPORT

by Robert C. Scollay

## EVIVAL TURN INTO A REVOLT?

wheelbase and 82 horsepower. Facing a hostile market engendered by the huge advertising budgets of rival manufacturers the fight was not easy and the car could hardly be called a howling success. They persisted in their policy, however, and continued to develop the car until the 1955 model was dropped in 1956-57 in favor of a sales push on the 108-inch wheelbase station wagon and the smaller Metropolitan. In 1958, however, the company has again picked up the cudgel in the form of a revised version of the 100-inch wheelbase car and has continued the fight to popularize a compact, economical car.

The new Rambler American has been touted as being compact. This has been accomplished without significant loss of space in the passenger compartment. Compared to the average of the low-priced three, the car is a full 2½ feet shorter and a desirable five inches narrower. Overall height is about the same. In the interior, front seat legroom is similar and rear seat legroom 3.8 inches less than the bigger cars. Greatest difference is in the rear seat; hiproom is 16.7 inches less than the average. This is a result of the wheelwell positioning and the wide armrests. This may present a tight squeeze for three sizable rear seat passengers—but in these days of chair-height driveline tunnels, who carries three passengers comfortably in the rear seat?

The American is admittedly a face-lifted version of the 1955 model and the operation has been a pleasing one. On the exterior, the rather slab-sided effect in the '55 styling has been relieved by rear wheel cut-outs. The hood scoop has

been eliminated, the rear deck smoothed and flattened, the top flattened, and a handsome new grille added. The rear window has been enlarged by more than 100 square inches. There is a notable absence of garish chrome (cheers!).

Under the skin, the engine remains the same except for a relocation of the water pump and a compression ratio which has been raised from 7.3 to 8.0 to 1. The horsepower and torque ratings remain the same—90 bhp at 3800 rpm and 150 pounds-feet at 1600 rpm. A highly significant improvement has been made in the brakes. The effective braking area has been raised from 103.6 square inches to 139.4 square inches. Other improvements include a manufacturing procedure in which the entire body is not only bonderized but is completely submerged in paint to cover all crevices and crannies to ensure a corrosion-free life.

We reported on this car when first introduced (see "America's New Economy Car," Feb. '58 MT) but to make a more thorough investigation we again tested a Super model equipped with the standard transmission, overdrive, whitewalls, radio and heater. It was a pleasure to drive in both city traffic and on the highway. Vision is good all around and teamed with the 3.5 turns lock-to-lock steering it parks like a baby carriage. It is agile, and while its accelerating ability of 0 to 60 in 16.4 seconds is not the screeching, rubber-burning variety, it must be considered more than adequate. In many departments the car reminded us of the Swedish Volvo because of its excellent performance, ride and handling. The seats are comfortable, there is no excessive body

# RAMBLER

continued

lean in sharp, fast corners and the ride, while a mite on the firm side, gives a notable lack of bottoming and oscillation when you hit sharp dips.

A really outstanding feature of the car is the excellence of the brakes. Using our standard fade test consisting of repeated slow-downs from 60 to 20 mph at 50 per cent brake efficiency, we were able to complete 16 cycles before fade began to appear. More remarkable, all slow-downs could be made with hands off the wheel since there was not the slightest tendency to swerve from a straight line.

On our relatively infrequent visits to service stations (we got as much as 25.8 mpg) we heard frequent remarks about the ease of servicing and adjusting the engine and other components. American Motors have in the interest of economy again aided and abetted this feature by providing a real do-it-yourself owners manual—a rarity in these days. The manual outlines adjustment and repair procedures for the carburetor, distributor, wheel bearings, brakes, ignition and spark plugs as well as including lubrication instructions.

Will the American Motors philosophy pay off? It begins to appear that it will. With other manufacturers complaining about declining sales, Rambler sales are up 66 per cent since last October and the company's financial position is rapidly improving. We wish them luck and congratulate them for their courage.

/MT

## ACCELERATION

From Standing Start  
0-45 mph 9.0 0-60 mph 18.4  
Quarter-mile 20.5 and 66 mph  
Passing Speeds  
30-50 mph 8.3 45-60 mph 8.6  
50-70 mph 10.3

## FUEL CONSUMPTION

Stop-and-Go Driving  
18.4 - 20.0 mpg for 503 miles  
Highway Average  
25.8 mpg for 248 miles  
Overall Average  
20.9 mpg for 751 miles

Fuel used: Mobilgas Special

## SPECIFICATIONS

ENGINE: 8-cyl. in-line I-head. Bore 3.125 in. Stroke 4.25 in. Stroke/bore ratio 1.36:1. Compression ratio 8.0:1. Displacement 195.6 cu. in. Advert-

tised bhp 90 @ 3000 rpm. Bhp per cu. in. 0.46. Piston speed @ max. bhp 2882 ft. per min. Max. torque 150 lbs.-ft. @ 1600-rpm.

TRANSMISSION: Single plate dry clutch. Three speeds, synchromesh. Overdrive optional. Flash-O-Matic automatic transmission optional. Rear axle ratios: Standard 3-speed 3.78:1 (3.31:1 optional), overdrive 4.11:1 (3.78 optional), Flash-O-Matic 3.31:1. Driveline: Notchbacks and hypoid rear axle.

CHASSIS: Unitized body-frame with welded construction. Suspension: independent front with coil springs; semi-elliptic rear springs; telescopic shock absorbers. Tires: 5.90 x 15 (6.40 x 15 optional). Brakes: hydraulic, with 138.4 sq. in. effective area. Steering: recirculating ball; 36-ft. turning circle, 3.3 turns lock-to-lock.

DIMENSIONS: Wheelbase 100.0 in., overall length 178.3, height 57.3, width 73.0, front tread 54.8, rear tread 55.0, weight (shipping) approx. 2500 lbs., weight/bhp ratio approx. 27.8:1.

PRICES: Factory-suggested retail price including Federal excise tax, delivery and handling charges. Not included are state and local taxes, transportation charges and optional equipment. Deluxe 2-door \$1709, Super 2-door \$1874.

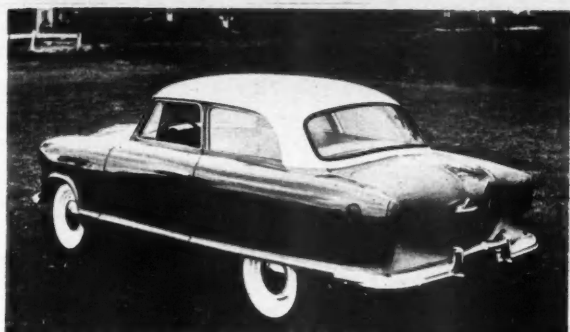
ACCESSORIES AND OPTIONAL EQUIPMENT: Flash-O-Matic automatic transmission \$178, overdrive \$102, heater \$72, reclining seats \$15, radio \$50, whitewalls \$31, wheel discs \$15, tinted glass \$27, two-tone paint \$16.

REAR SEAT is more comfortable for two than three because of the restricted width. The legroom is most adequate.



HANDY FEATURE is sliding-drawer-type glove compartment. The switches and controls are all easily reached.





1955 RAMBLER had chrome side trim, smaller rear window. Small rear wheel cut-outs have been outmoded.



1958 RAMBLER AMERICAN has no side trim, larger rear window, full wheel cut-outs, and smoothed rear deck.

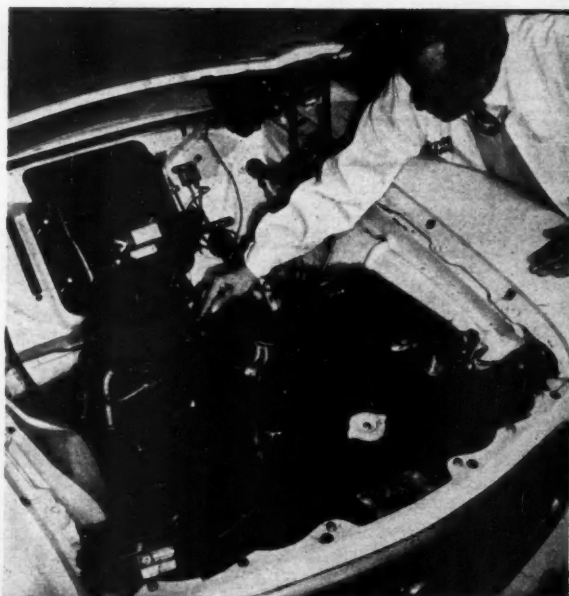
### How The Rambler American Compares With The Low-Priced Three

(Dimensions in inches)

	FORD CUSTOM 300 6	CHEVROLET DELRAY 6	PLYMOUTH PLAZA 6	AVERAGE OF LOW-PRICED THREE	RAMBLER AMERICAN	DIFFERENCE
Wheelbase . . . . .	116.0	117.5	118.0	117.1	100.0	-17.1
Overall length . . . . .	202.0	209.0	206.0	205.3	175.3	-30.0
Overall width . . . . .	78.0	77.7	79.3	78.0	73.0	-5.0
Overall height . . . . .	56.2	57.1	56.6	56.6	57.3	+ 0.7
Front seat hiproom . . . . .	60.3	62.1	63.0	61.8	58.0	-3.8
Front headroom . . . . .	34.8	35.0	35.7	35.1	35.3	+ 0.2
Front legroom . . . . .	43.0	44.6	45.5	44.0	44.0	0.0
Rear seat hiproom . . . . .	60.3	63.1	62.7	62.0	45.3	-16.7
Rear headroom . . . . .	33.6	34.2	34.2	34.0	34.0	0.0
Rear legroom . . . . .	42.7	42.7	41.5	42.3	37.5	-4.8



TRUNK is understandably on the smallish side and some ingenuity must be used to take full advantage of space.



ENGINE LAYOUT has been deliberately designed to give home mechanics chance to make adjustments, do repairs.

# A CAR SHE SHALL HAVE ~~MUSIC~~ WHEREVER SHE GOES!



**on the street...** This little bug in traffic could become a real menace, worse than pedestrians, because of its built-in invisibility feature — its lowness.

PHOTO STORY BY CURT GUNTHER



**A**S AUTOS in the United States get longer and broader, little cars in Europe are hitting new lows. Manufacturers seemingly are in competition to produce the smallest car on the market. Such petite models as the Isetta and Messerschmitt have already been superseded by a little bug of a vehicle that rolls and goes on three wheels and looks scarcely more than a motorized tricycle with a body.

The car, a Brusch-Mopetta, made in Stuttgart, Germany, is so small even a girl can lift up its front end to drag it into the house for parking — a real advantage these days. Less roomy than a telephone booth and seating only one, it makes up for its low passenger capacity by its high mileage per gallon, ease of parking, and low price. Besides, the miniature vehicle is amphibious. Confronted by a shallow canal or stream, the driver simply plunges in and drives right across through the water!

/MT

**in the water...** Travelling by piggyback to your favorite stream is a cinch with this one-seater.



**WHEN YOU COME** to a stream, don't hesitate. Drive right on through. The Brusch-Mopetta is amphibious and so you won't get your feet wet.

46 MOTOR TREND/JUNE 1958



DES!



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/MT

# MOPETTA



**in the house...** No need to leave it on the street. It can go right up the stairs into milady's boudoir.



## DRIVING IMPRESSIONS BY OUR ART EDITOR

THE ART EDITOR must be content (usually, at least) to get his thrills via the drawing board. All too often I've looked out the office window, watched with envy as the MOTOR TREND test crew prepared to depart for a day of road testing. With reluctance I would return to page layouts.

This time it was to be different. After a luncheon jaunt in the Arnolt, Walt Woron suggested, "You take it — see what you think of it. After all you've got a T-Bird, like good-lookin' cars."

So it was arranged. Next day Bob D'Olivo, our chief photographer, and I started, equipped with wrenches, extra set of Lodge plugs, drawing paper and India ink. When pictures of this car first came across my desk, I took notice — now I was going to meet the rig in person. On the way to the dragstrip, I could sense this Arnolt-Bristol had performance. After finding out how it can eat up corners, I was sure.

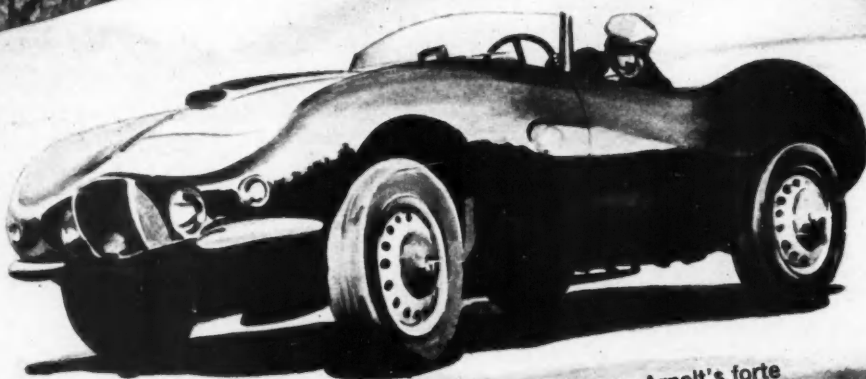
To the artist the lack of needless embellishments is refreshing. The aerodynamic lines are clean and appealing. Bucket seats are exceptionally comfortable. I told Bob, "This beats the chairs in our front room."

At first glance the Arnolt-Bristol looks too potent for ordinary street use. Actually it can be as docile as a Persian cat, or cheetah-like when the throttle is depressed. You can drive the Arnolt-Bristol to the local drug store on Friday night, and then be in the thick of a road race during the weekend — kinda Jekyll-Hyde style. Run off and hide from the pack. If you want a sports machine that is a cut above the ordinary and still not priced out of this world, then this Bertone-bodied bomb is it.

Now — back to my layout chalks and T-square. It was a great experience seeing how our cars are put through their paces. I'd say Arnolt of Chicago has done the leadfoot fraternity a real favor in making this sports car available on the American market . . . J. Bryce Gillespie.

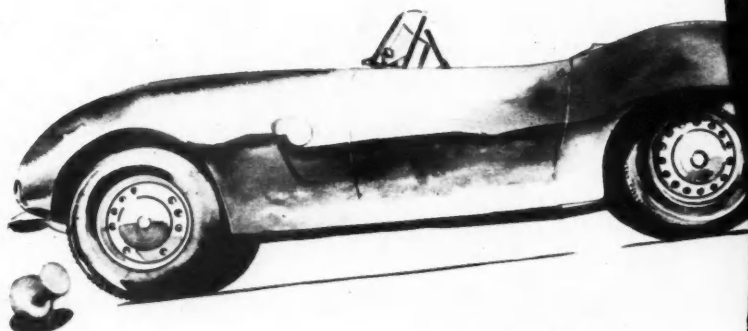
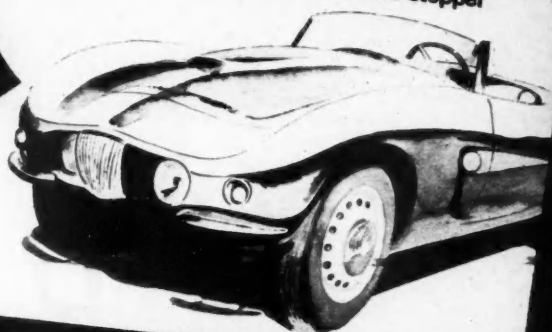


# ARNOLT- BRISTOL



Fast cornering is the Arnolt's forte

Distinctive styling makes it a crowd-stopper



Esthetic profile is unusual and appealing

aviation heritage is evident in the cockpit



FOR LOW-COST TRANSPORTATION, TRY THE FRONT-WHEEL DRIVE

# LLOYD



A MOTOR TREND RESEARCH REPORT by Bob Rolofson

**O**F THE 2.3 MILLION registered automobiles in Germany, a pee-wee called the Lloyd ranks third in total sales. The name is relatively new in the United States, but its pedigree goes back to 1906 when the "Norddeutsche Automobilund Motoren A-G" (whew!) bolted the first Lloyd together. A succession of mergers incorporating Hansa and Goliath wound up with an inter-company called "Lloyd Motoren Werke GMBH." Organized in 1950 under the direction of Dr. Borgward, this organization set out to manufacture the first postwar Lloyd. Today the factory punches out one Lloyd every three minutes, and has dealerships in 72 countries!

At first meeting, the little machine looks like another minicar. It appears high and short in this world of low, long vehicles. The first surprise is in the finish and bodywork. The weather-seal is so good that unless a window is open, it is

necessary to slam the doors shut. In these days of bolt-on-and-go manufacturing, it is great to motor through a driving downpour with nary a leak.

The second surprise is the amount of usable space inside the car. The two bucket seats in the front can be adjusted for leg reach, and the angle of their backrests changed with thumb-screws while on the road. Behind the buckets is a comfortable bench seat which will accommodate two adults in relative comfort.

Previously it was possible to order the Lloyd with a two-stroke engine as a cheaper alternative, but road experience proved it to be less economical. Last year the factory dropped the smaller unit and is now concentrating on an improved 600cc unit mated to a four-speed synchromesh transmission. With this relatively new short-stroke mill, the front-wheel-drive Lloyd is able to com-

pete on level terms with the monsters of the road. I found that by keeping engine revs high and using all four gears liberally, the car could actually be threaded through city traffic like a motorcycle.

The column-mounted gearshift is in a narrow "H" pattern, with reverse up and toward the driver. The "H" on this waggie stick is about as narrow as they come, and although reverse is spring loaded, the average first-time driver usually makes a number of reverse "starts" at the traffic light. There is a fairly high noise level at speed, but no objectionable vibration. Visibility is very good, with narrow pillars fore and aft, plus a side mirror supplementing a standard rear view mirror. The Lloyd dash is uncluttered and safe, with the speedometer readable through the two-spoked steering wheel at all times.

The four-stroke parallel twin engine

is air-cooled by a radial fan. Its 36.4 cubic-inch capacity puts out 24 (gross) horsepower at 4500 rpm, on a compression ratio of 6.6 to 1. The crank runs in large roller-and-ball bearings, and drives the camshaft by roller chain. The factory claims that the mill is practically indestructible, and after some wild over-revs during acceleration runs, I'll buy their claim. Later, during a five-mile run on the freeway, the speedometer held an indicated 65 mph with no apparent strain on the engine. Based on the earlier readings, the factory claim of a top 63 mph seems more than fair.

The brakes are oversized in relation to the car's weight. After 12 tire-ripping panic stops from 50 mph, there was absolutely no sign of brake fade. The car did weave a bit, but that is to be expected in all cars of this size, and was easily controlled.

Factory fuel consumption claims are 35 to 40 mpg in city driving, and up to 50 mpg (at 50 mph) on the highway. I managed to get 36.8 mpg in 214 miles of hard city driving — including the performance runs!

Dr. Borgward's car certainly fulfills all expectations. Sure, in this age of 300 hp-plus, the Lloyd is low powered, and that's one reason why it's so inexpensive to operate. The manufacturers peg it as a second or third car for shopping, or for Junior as his "coming of age" gift. As such it is a safe, strong, quality car with economy as the "kicker." It's a kick to wheel into a filling station and shout "fill 'er up" . . . *all six gallons!* /MT

## ACCELERATION

From Standing Start  
0-45 mph 20.1 0-50 20.8  
Quarter-mile 27.0

## FUEL CONSUMPTION

Stop-and-Go Driving  
36.8 mpg for 214 miles (including test runs)  
Highway Average  
45-50 mpg (est.) at 50 mph

## SPECIFICATIONS

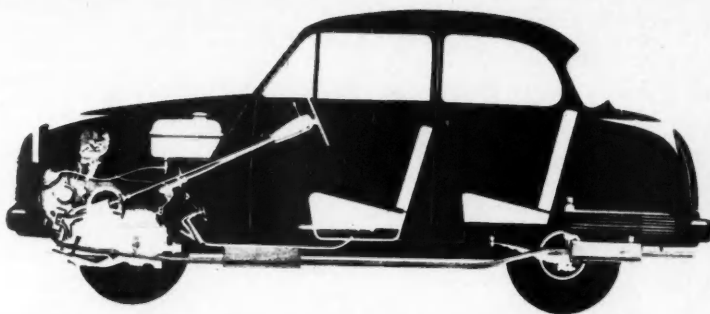
**ENGINE:** 4-stroke parallel twin. Bore 3.03 in. Stroke 2.52 in. Stroke/bore ratio .83:1. Compression ratio 6.6:1. Displacement 36.4 cu. in. Advertised bhp 24 (gross) @ 4500 rpm.

**TRANSMISSION:** Front-wheel drive. Dry single-plate clutch. 4-speed all synchromesh gearbox.

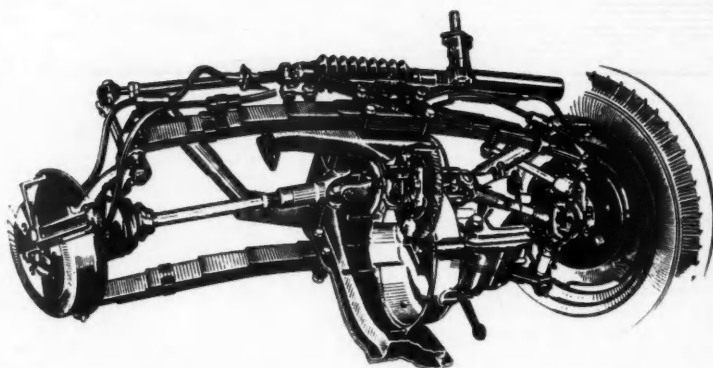
**CHASSIS:** Central backbone with box section sills and integral floor. Independent suspension. Front — transverse semi-elliptic springs with rubber inserts for lower and auxiliary leaf for upper. Rear — longitudinal semi-elliptics and swing-axle. Telescopic shocks. Hydraulic brakes. Rack and pinion steering, with 2.5 turns lock-to-lock.

**DIMENSIONS:** Wheelbase 70.3 in., overall length 132.0, overall height 55.8, overall width 56.4, minimum clearance 5.0, front tread 41.5, rear tread 43.3, weight (dry) 1190 lbs.

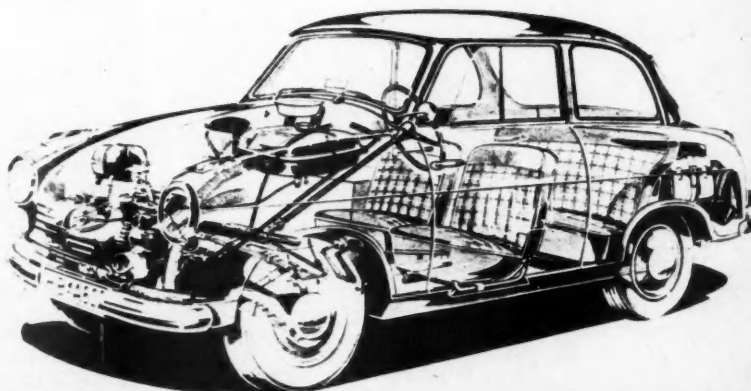
**PRICE** (part of entry): \$1425.



WITH ONLY one-fourth of Lloyd's length devoted to engine components, passenger compartment has enough space for four adults; rear legroom is crowded.



**LOWER TRANSVERSE SPRING** is the main suspension element, consisting of 10 thin leaves with rubber buttons at the ends to reduce inter-leaf friction. Upper spring provides progressive-rate springing — with three thin full-length blades under four thicker blades — which increases resistance as it is needed.



**FULL HORSEPOWER** of engine, driving front wheels, constantly pulls car through sharp corners or around long curves. Quick-change engine mounts provide low-cost overhauls. Accessibility of engine components is one of best of foreign cars.



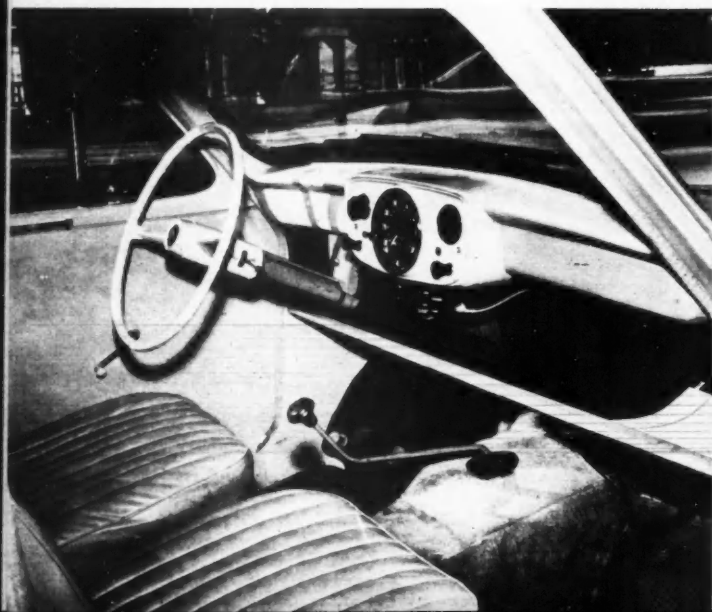
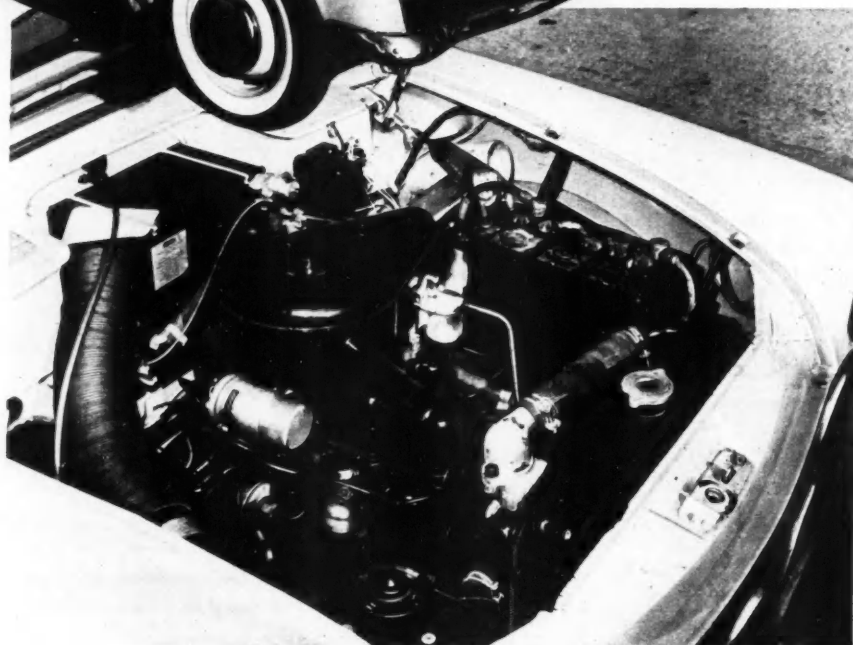
NEWEST of the bob-tailed cats has retained jaunty lines of the '57 model, plus a swanky new grille that has eye-appeal.

# A MOTOR TREND RESEARCH REPORT

by Bob Rolofson

RUGGED 85-cubic-inch engine fills its compartment, but major components are accessible for maintenance.

BUCKET-TYPE SEATS, simple two-spoke steering wheel, large "Husky" type instruments, and efficient floor-mounted gearshift help to make the Special quite desirable transportation.



## SPECIFICATIONS

ENGINE: 4-cyl. ohv. Bore 3.00 in. Stroke 3.00 in. Stroke/bore ratio 1.00:1. Compression ratio 8.0:1. Displacement 85 cu. in. Advertised bhp 51 @ 4400 rpm. Max. torque 72 lbs.-ft. @ 2200 rpm.

TRANSMISSION: Dry single-plate clutch. 4 forward speeds, top 3 synchronized. Overall ratios: 17.05:1, 11.81:1, 7.13:1, 4.78:1. Rear axle ratio 4.78:1.

CHASSIS: Unit construction. Front suspension — independent, coil and wishbone. Rear — live axle and semi-elliptic leaf springs. Tubular shocks all around. 5.00 x 15 tires. Lockheed hydraulic brakes. Worm and nut steering, with 34.3-ft. turning circle. 2.5 turns lock-to-lock.

DIMENSIONS: Wheelbase 96.0 in., overall length 162.0, overall height 59.5, overall width 60.8, minimum clearance 7.0, front tread 49.0, rear tread 48.5, weight 2140 lbs. (56% front, 44% rear).

PRICE (port of entry): \$1699.

ACCESSORIES: Heater \$57, radio \$71, whitewalls \$27.

# HILLMAN MINX

**I**N CELEBRATION of the 25th birthday of the marque, the 1958 Hillman Minx series has been named the "Jubilee." The new Hillmans are as sporty as California shirts in England. Designed specifically for export, they look like blooded pups from a Detroit litter. In keeping with U. S. practices, the main body panels are roughly the same as those on the Singer Gazelle and Sunbeam Rapier. As American as the hot-dog, the newest of the bob-tailed cats has a swanky new grid-type grille.

Guinea pig for my first test as MOTOR TREND's new "specialist" in foreign car testing was a baby blue "Jubilee" Special four-door sedan. Newest in the Hillman stable, the Special has less chrome trim, no headlight visors, and simpler interior trim than the deluxe model. Ace in the deck is the floor-mounted gearshift in a wide, standard "H" pattern, as opposed to the monkey-motion column-mounted lever on the deluxe. The Special's gearbox is as smooth as a greased eel and requires little effort when downshifting. Another pleasant feature is the front seating setup. The Special features a pair of bucket-types, while the deluxe has a bench . . . British ads are already quoting a £25 (\$70) tab for bolting buckets into the deluxe!

The rugged 85-cubic-inch ohv four-banger has been needled with a new camshaft. Horsepower remains the same at 47.5 bhp net (51 bhp gross), but is developed at 4400 rpm instead of at 4600 rpm. This gives a slight increase in horsepower through the middle range, where it lends authority through the gears.

Instruments are still located in the center of the dash, where the driver needs a neck like a left-handed rifle stock to read them at speed. However, the Special has borrowed its instruments from the Hillman "Husky" which features a very large speedometer. Steering has been improved. It is tight, solid, and moderately fast. This, coupled with a neat 96-inch wheelbase and excellent suspension, produces unexpectedly good handling characteristics. The paint, upholstery and general finish are good, and the unit construction induces a quiet, solid-feeling ride.

The brakes on the Special are excellent. After 11 jolts from

60 mph to an abrupt 20 mph they smoked and smelled, but allowed hands-off stops without serious fade. The hand brake is floor-mounted to the left of the driver's seat (next to the door) where it is handy and easy to grab in an emergency. This mounting has been criticized as a trouser-grabber, but in 10 days of driving I wasn't able to verify the criticisms.

Getting back to the front seats — they are as comfortable as padded TV chairs, but are unusually high as buckets go. By way of a suggestion to the manufacturers these seats (as mounted in the test car) make fine catapults! Twice I was forced to make sudden stops in traffic, and in each instance the passenger whammed into the windshield. When my eight-year-old son bounced, I wrote it off to his light weight and habit of sitting everywhere but in the seat. The second time, however, my passenger was a competition driver. While nursing his banged nose (and suffering kidding from me), he shouted "Hell yes, I knew you were going to hit the brakes . . . the damned seat moved!" Sure enough, the buckets are hinged at the front, and being high, they flip the passenger like a pea off a Frenchman's knife. A pair of inexpensive brackets would correct this hazard, save a passel of bruises, and maybe some lives.

Being a nation of collectors and gadgeteers, our automobiles serve as clearing house and carrier for all sorts of paraphernalia. Based on extensive research of the U. S. market, the Rootes people have incorporated plenty of gimcrack space in their Minxes. The trunk is moderately large, and with the exception of the spare tire which is mounted in a well in the fender, the space is 100 per cent usable. There is no lockable dash compartment (which would be nice), but there is a door-to-door shelf under the dash which could hold 100 pounds of assorted bric-a-brac.

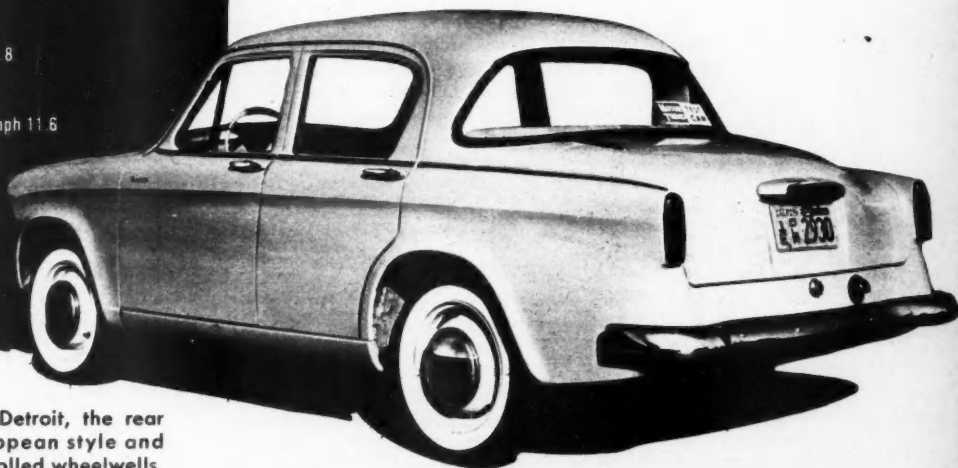
In the Minx "Jubilee" Special, the Rootes Group has come up with a "sleeper." It could do for them what the Rambler has done for American Motors. By unloading the gook, adding the stick shift, bucket seats and large "Husky" instruments, they have produced a handsome and efficient Minx for less loot. A rugged machine based upon tough trial, which should give the competition something to ponder. /MT

## ACCELERATION

From Standing Start  
0-45 mph 12.3 0-60 21.8  
Quarter-mile 22.9  
Passing Speeds  
30-50 mph 9.7 45-60 mph 11.6

## FUEL CONSUMPTION

Stop-and-Go Driving  
19.1 mpg for 248 miles  
Highway Average  
20.3 mpg



ALTHOUGH influenced by Detroit, the rear end treatment retains European style and good taste. Note the open-rolled wheelwells.

# DYNA PANHARD

**WHEN I PICKED UP** the Dyna Panhard sedan from Citroën Cars Inc. in Beverly Hills, the dealer told me, "Take it out and flog it; you just can't break this machine."

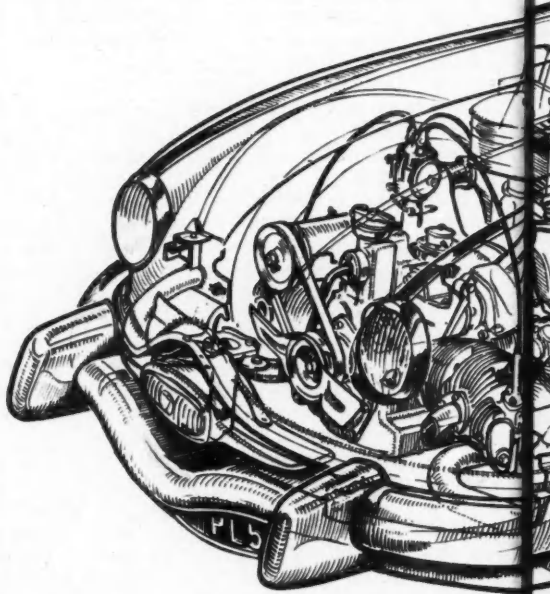
My first impression of the interior was that it was on the stark, spartan side. However, during the course of a 10-day trial, I discovered that this was due to the simplicity and big-car space, which came as a double-take. Off-hand, I can think of no other car of this size that can match the easy four-door accessibility of the Dyna. There is plenty of adjustable legroom, both in the front and rear seats, even for six-footers. Upholstery, dash padding and the headliner are of top quality, tough plastic leather. True, the doors swing outward and slightly up, making it necessary to use a bit more elbow grease, but they offer 100 per cent more protection from high curb parking. All of these creature comforts, plus a wide step-down flat floor (no transmission hump), nominate it as a family car.

For a gadgeteer the instrument grouping in the Dyna is heaven-sent. For me it was like Columbus trying for India. All of the controls are built into a huge fat shell around the steering column. On the front (facing the driver) are knobs controlling the starter, choke, battery cut-out, defroster, heater and ignition switch. Above this is a large, easy-to-read speedometer incorporating an ammeter, bright light indicator, fuel gauge, and trip odometer. On the top are flick switches for the windshield wipers, and the right and left parking lights. On the left side is a rheostat control for the dash lights, a pushbutton for spraying the windshield, and the gadget-of-gadgets: the light switch lever. This innocent-looking lever actuates the left-turn lights when pushed down, and the right-turn lights when pushed up. When the lever is rotated one way, it operates the parking lights when pushed away, and the low beam lights when pulled forward. Rotated the opposite direction it works the high-beams when pushed away, and the low beams when pulled forward. Don't go 'way, man... it also blows the horn!

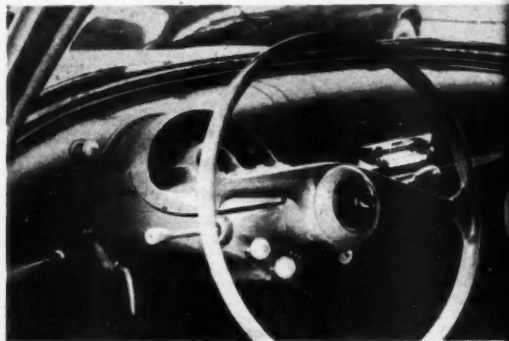
The column gearshift lever is in a standard "H" pattern, with third very deep for those who like to drive with the seat back. First gear is ratioed for climbing the Alps, and second not too much higher. Third really takes off, and fourth is for the open spaces. This low gearing in first and second turns heavy traffic driving into a rowing event. The car doesn't really get the bit in its teeth until traffic is broken up, giving the engine a chance to wind into third. For commuters covering free-ways and scattered traffic routes, the Dyna could save a terrific sack of moola over a year's time, just in gas tax alone. I managed to get 34.8 miles to the gallon—including all tests and acceleration runs. While this is below factory claims, the car was flogged and it doesn't take much to blast economy when trying for maximum performance.

Featuring overhead valves in hemispherical combustion chambers, the engine is an air-cooled flat twin four-stroker, made of aluminum. Each cylinder is of cast aluminum with removable cast-iron liners. Engine noise is kept to sewing machine level through the use of hydraulic pressure against the ball-and-socket rocker arm pivots, keeping them in contact with the 45-degree inclined valves and pushrods, thereby voiding tappet clatter. Torsion bar valve springs permit maximum tension adjustment.

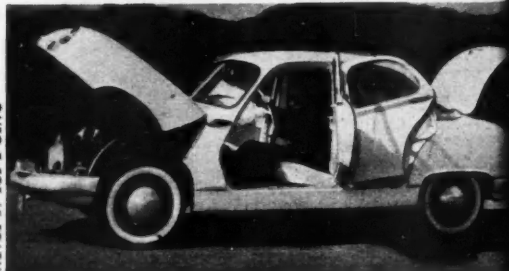
The ride is smooth and firm, soaking up bumps and flattening dips, but the car cannot lay any great claims to smoothness. During hard acceleration the engine transmits fierce vibration through the gas pedal and steering wheel. Vibration seems to be a bug-a-boo with two-cylinder mills. Even when the car is flat-out, there is still a trace, but it is not objectionable from 50 to 85 mph. To obtain maximum performance from their 42-hp engine, the manufacturers went to wind tunnel experts for a body shell. The result is different: no grille, recessed lights, rounded contouring, and an over-all futuristic effect. It is beautifully made, sturdy, roomy, and extremely economical to operate. This, plus sports car handling, make it a car worth trying. /MT



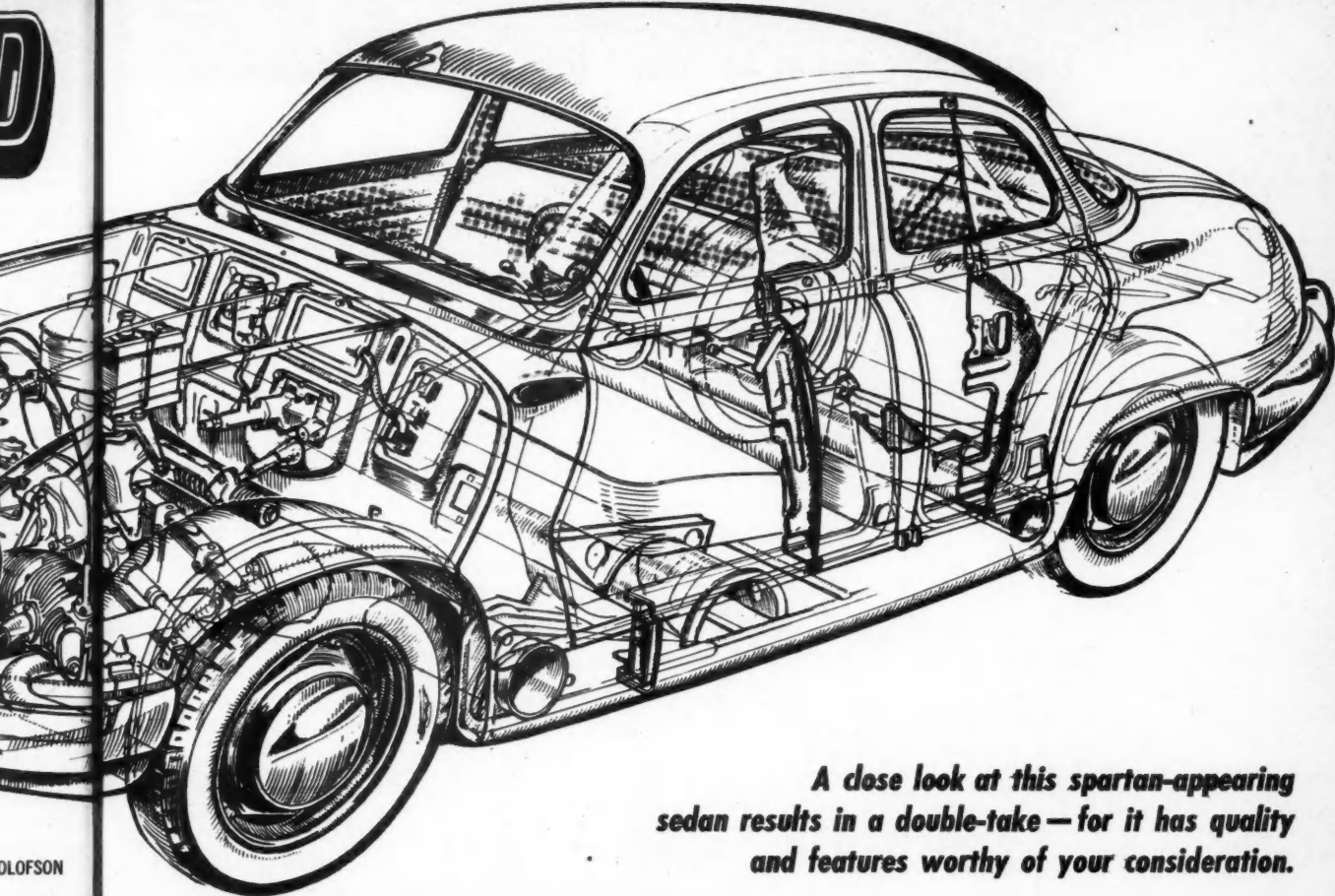
A MOTOR TREND RESEARCH REPORT by BOB ROLOFSON



INSTRUMENTS, controls show design ingenuity.



ENTIRE FRONT section hinges back like whale mouth. Everything is visible, readily accessible.



**A close look at this spartan-appearing sedan results in a double-take—for it has quality and features worthy of your consideration.**

#### ACCELERATION

From Standing Start  
0-45 mph 14.6 0-60 mph 30.0

Quarter-mile 24.5  
Top speed 65 mph

Passing Speeds  
30-50 mph 11.6 45-60 mph 16.2

#### FUEL CONSUMPTION

Stop-and-Go Driving  
34.8 mpg (including test runs)

#### SPECIFICATIONS

**ENGINE:** Fan-cooled 2-cyl. ohv. Bore 3.55 in. Stroke 2.97 in. Stroke/bore ratio .84:1. Compression ratio 7.2:1. Displacement 52 cu. in. Advertised bhp 42 @ 5000 rpm. Max. torque 50.6 lbs.-ft. @ 2250 rpm.

**TRANSMISSION:** Front-wheel drive. 4-speed gearbox. Overall ratios: 16.5:1, 9.3:1, 6.2:1, 4.7:1.

**CHASSIS:** Independent front suspension. Front — transverse springs. Rear — tubular beam axle and torsion bars. Hydraulic brakes — 10-in. front, 9-in. rear. Rack and pinion steering, with 32-ft. turning circle.

**DIMENSIONS:** Wheelbase 101 in., overall length 180.5, overall height 57.0, overall width 65.9, ground clearance 6.5, front tread 49.0, rear tread 49.0.

**PRICE** (port of entry) \$1995



**PLENTY OF THOUGHT** has gone into design for quick servicing. Jacking is simple; rim bolts speed wheel changing.

Cross-country test of Adventurer from Detroit to Daytona to Los

# The Adventures of DE SOTO

Story and Photos by William Carroll



SUSPENSION, BRAKES, handling were given work-out during "Stop and Go Tests" at first session of Daytona Speedweeks.

**S**NEAK TREAT OF '58 is DeSoto's Adventurer series, a gutty hardtop and convertible duo for the fellow who wants something different. We ran a hardtop, which like an old shoe, made us feel at home from the very first mile.

Before picking up the car in Detroit, we spent a lot of time talking with George Gale, assistant chief engineer for DeSoto, who said, "Our approach to designing the Adventurer was to have a car with an appeal of its own. Not a competition car—but performance-proved transportation that would be pleasant to drive every day of the year."

Mr. Gale also told us that to achieve this package they used the top series (Fireflite) and made extensive comparison tests between standard suspension and competition lashing before deciding to leave the stock DeSoto ride alone. They use the same basic Chrysler "B" engine shared with some other models of Dodge and Plymouth and installed a hot Chrysler-designed cam, dual-breaker-point distributor, cooler spark plugs and a most unique DeSoto dual carburetor intake manifold. The manifold was selected only after lengthy laboratory tests that showed the "B" engine to be more responsive to dual four-throat carburetion than other usual combinations. By careful selection of production cylin-

der heads the Adventurer runs a 10.25 to 1 ratio, with heavier valve springs to keep hydraulic actuated valves under control. Other changes over regular production include 1/4-inch larger exhaust piping, tuned mufflers and optional rear axle ratios from 2.92 to 3.91 to 1. For the "it's gotta feel like a sports car" driver, "export" shock absorbers and springs are available at extra cost.

Speaking of cost brings up an interesting point. DeSoto's Adventurer is exactly the same size (except for length of fins) as a Chrysler 300-D, weighs 340 pounds less, has 35 fewer horses and is almost \$1000 cheaper. This is what we meant by a "sneak treat." Though only 1500 hardtops and 350 convertibles are scheduled for 1958, the price is mighty low for such a custom package.

**NEW FOR '58** are such bits as four tubular struts extending from the fenders to the cowl to reduce fender weave found in so many cars, a special sealing and coating technique in body construction that seals the body so well our heater blower couldn't force air into the car unless a window was opened slightly, a tremendous bubble canopy windshield that allows you to see overhead traffic lights, plus two-inch-

# Los Angeles reveals interesting points of comparison to Chrysler 300-D



ADVENTURER with car tester Bill Carroll at the Detroit factory.

DE SOTO on hard-packed Florida Beach prior to test.



AFTER DRAGGIN' for 200 yards down straightaway, we had to try to stop with front wheels on a line one-foot wide.

longer rear springs for a softer ride. The rear axle is mounted forward of the spring center to a forward section of the rear spring that is seven times stiffer than the rear section.

The new "B" engine has many new approaches to engine design when compared to a '57 installation. Bearing areas have been increased 25 per cent, crankshaft overlap area is doubled, compression ratio and cubic inches are raised, and lightweight stamped rocker arms are used. Best of all, the "B" engine is 60 pounds lighter than last year's V8.

After George filled us in on engineering behind the Adventurer we headed for the factory parking lot. Buried in a field of nearly snowbound cars was a hardtop which much to our surprise started promptly and kept on running in the 20° weather. A quick fill with gas and we headed over icy roads to Daytona, Florida, and more cold weather.

This was a strange trip. Most high-performance cars have such strong personalities the first thousand miles are spent getting used to them. Not so the DeSoto. It had no bad habits, behaved well on ice and slushy roads, went around corners with all the confidence of a well sprung torsion bar setup and rode softly enough to please the most tender tail. Credit should be given the Adventurer's long (126-inch)

wheelbase and widest tread of any car in its price class.

During these first three days we couldn't help but compare DeSoto with a 300-D driven cross-country (Jan. *MOTOR TREND*). Space the same. Feel the same. DeSoto more softly sprung on 1.04-inch torsion bars (300-D uses 1.11-inch bars) and passenger car shocks. Interior of the DeSoto a suave gold on gold fabric mixed with vinyl trim; the 300-D uses top-grain beige leather. One set of instruments was as handy as the other; DeSoto uses a horizontal red-line speedometer; a pointer on circular disc for the 300-D.

But there are differences in the cars, both on the negative and positive side. An Adventurer rides better than a 300-D. But it shakes more (300-D's frame 474 pounds versus Adventurer's 318 pounds) and is noisier. The 300-D handles better over 80 mph, the Adventurer better at lower speeds. The "B" engine is lighter and easier to service than the 300-D. But the 300-D engine turns 326 fewer revolutions per mile, has a longer stroke and seems to have more "umph" in the upper end. Then there is a \$1000 difference in price, favoring the Adventurer. Luckily we had a chance to put it through its paces at Daytona, making comparisons with some mighty potent machinery.

continued

# DE SOTO

continued

FIRST THING WE TRIED was the "Stop and Go Test" set up by NASCAR (see "Public Proving Ground," MT, Apr. '58) to test suspension, brakes and handling. And that it did. Over-eager drivers ran out of brakes, clutches or power steering belts as Detroit's best were driven like they had never been driven before. At the starter's send-off we'd drag madly up one 200-yard straightaway and try to stop with front wheels on a line one-foot wide. Shift to low and turn right into a 25-foot-deep parking area. Stop. Hit reverse and back out of the parking area across the simulated intersection into another 25-foot parking area. Stop without knocking over any of the boundary markers. Punch the DRIVE button and turn left up another 200-yard straight to stop, start, park, back up and go again. Twenty intersections. Optimum time: 6 minutes 20 seconds. And points off your score for missing the white line, running off course or knocking down markers.

How did the DeSoto and Carroll do? Not too well. Our score was a shameful 351 points in 7 minutes 58.8 seconds. We *did* treat the spectators to a most spectacular spin-out on dry pavement when our foot dove too deeply into horsepower as we pulled from an intersection. This demonstration knocked 25 points off our final score.

Fun on the beach began after "Stop and Go Tests" were completed. It was so cold that roadster owners were buying hot dogs just to hold in their hands and bring life to cold-numbed fingers. In spite of such natural obstacles to comfort we were able to have the Adventurer timed in the Flying Mile and for acceleration potential.

While waiting in line we pulled hubcaps from the Adventurer and filled tires to 50 pounds for maximum safety at speed. As the tide went out an old pickup truck ambled down the course setting rubber guide cones every hundred yards. On a return trip markers were set on the other side to complete outlining the five mile beach straightaway course (two miles to gain speed, a mile in the trap and two miles to slow down). Though called a straightaway, it's not

really very straight. The beach curves slightly, and during the entire run cars are always turning slightly to follow the curve, which on slippery sand calls for light fingers on the wheel.

On the north run we hit 116.656 mph, then did 123.035 on our south run for an average of 119.760. Though beaten by 10 Pontiacs and two 300-Ds, in the case of the Pontiacs they were cars with engines specifically designed and tuned by racing mechanics to really fly, while the 300-Ds cost \$1000 more, have more horsepower and upper-end performance. All in all the Adventurer's showing was impressive for a "straight from the factory" production car not specifically tuned for top speed, running power steering, automatic transmission and loaded with weighty, power-sapping comfort devices.

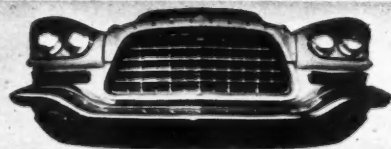
NASCAR scheduled Wednesday, February 19th, for acceleration timing with class breakdowns identical to those used for the Flying Mile tests. Of 22 cars entered we came near the middle at 81.154 mph. Daytona acceleration runs are unlike timing at a dragstrip, as not only do cars start on a sand beach (in which many a leadfoot has buried his chances for winning time) but they run a measured mile from the "Start" line to the end of the trap. Results are announced in *average* miles per hour over the mile, based on the length of time it takes to enter the measured mile from a standing start and leave it at top speed.

With two weeks of fun over, we replaced the DeSoto hubcaps, had salt spray washed off the body and headed for home by way of New Orleans, Houston and Yuma. We ran the uneventful first day from Daytona to New Orleans (651.1 miles) in a little over 11 hours, averaging 58.13 mph and 12.75 miles per gallon of Mobilgas. The following day we slowed to visit a number of auto dealers, traveled 398.8 miles, averaged 14.66 mpg at 46.92 miles an hour.

The third day found our Adventurer battering its way through one of Texas' worst windstorms with 75-mile-an-hour breezes tearing tops off buildings while searching for people. Although we were able to average 67.55 mph for the 675.5-mile run, gas mileage fell off to 10.81 mpg as a result of the head-winds. On the fourth day we ran out of

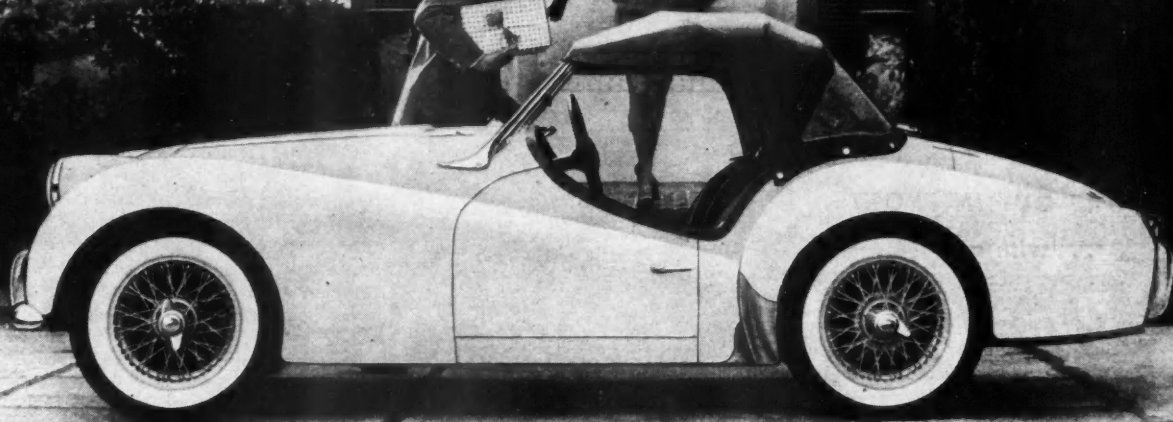
continued on page 68

## COMPARISON CHART



	DeSoto Golden Adventurer Hardtop	Chrysler 300-D Hardtop
Price	\$4016	\$5100
Wheelbase	126 inches	126 inches
Horsepower	345 @ 5000 rpm	380 @ 5200 rpm
Weight	3985 lbs.	4305 lbs.
Hp to Weight	11.4 hp per lb.	11.3 hp per lb.
Compression Ratio	10.25 to 1	10 to 1
Tire Size	8.50 x 14	8.00 x 14
Cross-Country gas consumption average	12.6 mpg	13.6 mpg
Standing-start one-mile acceleration run	81.154 mph	87.485 mph
Flying mile	119.760 mph	129.000 mph

Neither rain,  
wind nor  
etcetera  
can stay  
this courier



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#### SPECIFICATIONS:

**BRAKES:** Disc brakes on front wheels†

**TOP SPEED:** 110 MPH **MILEAGE:** up to 35 MPG

**ENGINE:** 4 cyl. (OHV) 1991 cc **OUTPUT:** 100 BHP

**ACCELERATION:** 0-50 in 8 sec.

#### MAINTENANCE:

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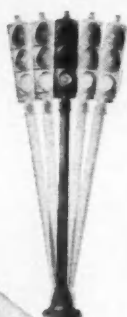
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\*Trade-mark OCF Corp.

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## DE SOTO

continued from page 29

lock ring and holds it in the groove.

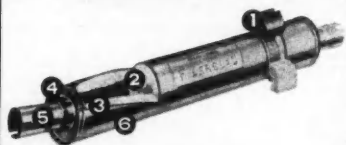
Pushrods for the rocker arms differ from others of their type in that their upper fitting is a two-piece arrangement. One of the pieces is pressed into the end of the rod to form a plug with a flat upper surface and an outer diameter the same as the outer diameter of the rod. The other piece, which has a rounded end to match the socket in the rocker arms, is made in the form of a sleeve so it can be slipped over the end of the pushrod. The purpose of making the rods this way was so that valve lash adjustments could be made by varying their length. This is done by placing hardened steel spacers between the upper end of the rods and the inner end of the bore in the removable piece.

ONE OF THE ENGINE'S many outstanding features—and a feature that is an absolute necessity on a racing engine—is its accessory drive assembly. An assembly of this type makes it possible to operate an engine without any of the belts normally required to drive some of its parts. Belts are definitely out of place on a race track.

An aluminum timing chain cover made by Howard Johansen, of Howard's Racing Cams (Los Angeles), serves as a base for the drive unit. Bolted to the cover is a cast-aluminum housing that supports three aircraft pumps and the bevel gears that drive them. This housing and the pumps were bought from an aircraft surplus store. One of the pumps is a Thompson vane-type that serves as the fuel pump; another is a vane-type fuel transfer pump that is used for the water pump; and the third is a hydraulic pump that is used as the main oil pump. These pumps are of the highest quality and they should operate for many hours without giving trouble. Gears on their driveshafts are rotated by a gear on a shaft driven by the engine's camshaft.

AT THE TIME THIS ARTICLE was being written Tony was making dynamometer tests with the engine and he still had several things to try that might possibly raise its horsepower output. The best it had done up to this time was 335 horsepower at 5500 rpm with straight alcohol fuel. This compares favorably to a 256-inch Meyer-Drake's maximum of 355 hp at 6000 rpm. Tony said that the output of his engine could be easily increased by changing its valve action but he would rather leave the action as it was in the interest of longer life of the parts concerned. Dependability is a big factor in any race, and especially so in the "500."

The engine is mounted in a Kurtis 500-A chassis that was built in 1953



- 1 Heavier double-wrapped outer steel shell for longer life
- 2 Fiberglass packing combines short and long fibers, allows only deep mellow tones to pass through
- 3 Straight-through design for power, with big 2 in. inner tube
- 4 16 gauge spun-locked blowout-proof steel heads
- 5 Precision-sized nipples for easy installation
- 6 Rich gold-painted color

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and ran at Indianapolis in '53, '54, and '55. While Tony was busy preparing the engines, Dean Murray, who will be a member of his crew, completely overhauled the chassis and did the work necessary to adapt the DeSoto engine to it. Jerry Unser, Jr., is scheduled to drive the car. Jerry will be a rookie at the Speedway but there isn't any doubt that he will pass his driver's test. He won the stock car division of the Pikes Peak Hill Climb in '56 and '57 and he was USAC National Stock Car Champion in '57.

A project such as this can eat up money faster than a mink-hungry woman and Tony admits he wouldn't have been able to finance the car without the help of H. V. Duncan, Jr., a contractor who lives in Compton, Calif. Duncan has had an active interest in hot rodding for several years and it was his Chrysler engine, which had been tuned by Tony, in the Plymouth that set new straightaway speed records at Daytona in '57.

Tony can account for \$15,000 in his DeSoto engines, a sum approximately equal to the price of two brand-new, shiny Meyer-Drakes ready to race. I asked Tony why he hadn't just bought a Meyer-Drake and gone racing instead of spending so much time and money on something that so far hadn't proved itself. "That type of racing doesn't interest me," he replied. "I'd like to be different—not merely for the sake of being different but to prove to myself that I have accomplished something. If possible, I'd also like to prove that what I am trying to do can be done."

If Tony and his boys are successful enough to qualify for the race this year they will be extremely happy. If their car can finish the race somewhere in the first 10 Tony will consider the project a complete success. I join with everyone who knows Tony in wishing him all the success in the world, and if all goes well, I'll be at the Speedway to help him enjoy his success first-hand. /MT

### SPECIFICATIONS Capanna DeSoto Engine

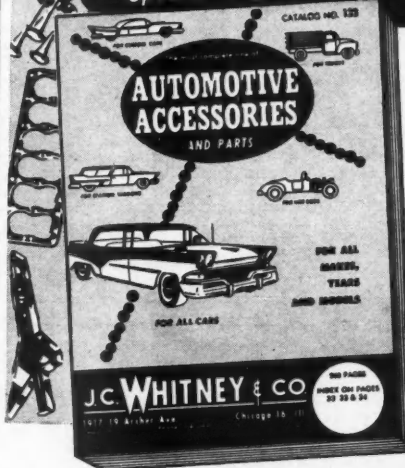
Bore 3.670 in. Stroke 3.000 in. Displacement 255 cu. in. Compression ratio 14.0:1. Pistons Forgings machined by Hy-Duty. Piston pins Nitraloy material, 1.0-in. dia., 2.70 in. long, .156-in. wall, hard-chrome plated. Pin locks Truarc rings. Piston rings Perfect Circle ("98" oil ring). Connecting rod bearings Ford F8 (flathead) truck, narrowed; Clevis 77. Main bearings No. 1, 2, 4, 5, '56 Chrysler; No. 3, '56 DeSoto; Clevis 77. Valves U9 International Tractor, cut down; intake 2.000-in. head, exhaust 1.800-in. head, stem dia. 11/32-in., face angle 45 deg. Valve springs Dual; outer—Special, with '57 Olds damper; inner—Meyer-Drake, tension—on seat, 225 lbs.; open, over 400 lbs. Camshaft Harman & Collins. Valve lifters Roller, with needle bearings; valve lift .375-in. Cam drive Diamond roller chain (Dodge truck). Pushrods Tubular (Smith Bros.). Rocker arms Stock, shot-peened and Magnaflexed, fitted with needle bearings. Carburetion Hiiborn fuel injector. Ignition Joe Hunt Scintilla Vertex; advance—governor weights, 24 crankshaft degrees; initial, 3 crankshaft degrees. Spark plugs Racing type. Lubrication system Dry sump (SAE 20 oil), capacity—6 gals., filter—full-flow, cooler—radiator in front of engine radiator. Exhaust system Individual pipe for each cylinder, pipe dia. 1 7/8-in., pipe length 48 in. Flywheel Meyer-Drake (11 1/2 lbs.). Clutch Meyer-Drake multiple-plate. Bell housing Meyer-Drake. Transmission Ford Model A with Meyer-Drake shafts.

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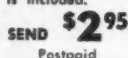
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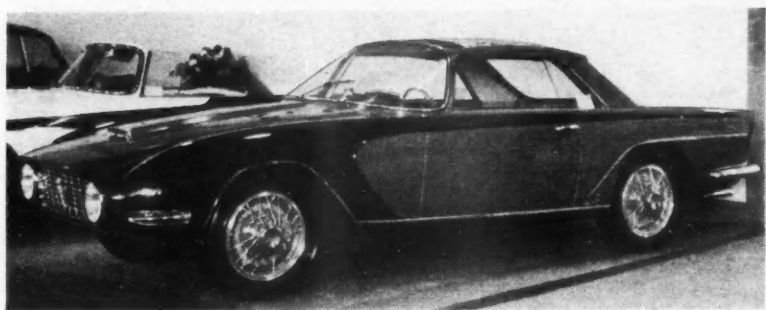
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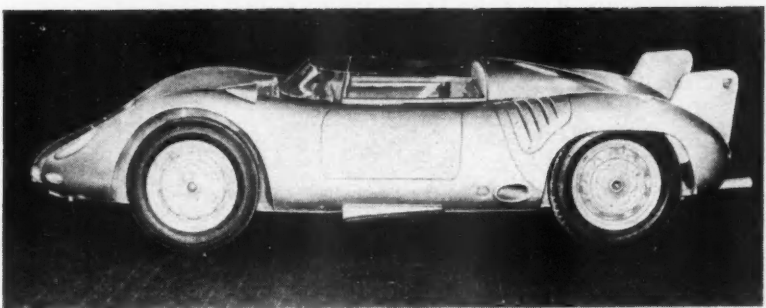
## AROUND THE WORLD continued from page 17



ALFA ROMEO Super Sprint shown at Geneva has interesting front-end design by Ghia Aigle. It comes in both a convertible and fixed-head coupe model.



VIGNALE built this original coupe on a Lancia Gran Turismo chassis modified by Nardi. It has distinctive thin roof line, two-tone treatment.



PORSCHE WORKS competition model sports car for 1958 has new five-speed gearbox, lighter tubular frame, oil cooler incorporated in front hood.

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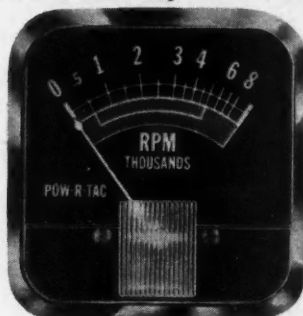
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ON THE VOLCANIC ROCK ROAD FROM KEFLAVIK TO REYKJAVIK OUR SWEDISH BUS PAUSES AS IT MEETS A LONE OPEL WAGON.

**ONE COUNTRY** which I didn't expect to see on my trip to Europe (and don't particularly care to see again) was the island of Iceland. But when our airplane made an overly long stay at the airport of Keflavik, it afforded an opportunity to see some of the barren wastes of this 40,000-square-mile island in the North Atlantic.

From the U.S. Air Force base to the capital of Reykjavik with its 60,000 inhabitants (over one-third of the total Icelandic population) is roughly 30 miles. And rough is exactly what I mean! From the time we left until we were in the very environs of the city, we were on a barely two-lane, winding road with outcroppings of glacierized rock spaced just right to keep you from dozing off. How our transportation, a Swedish bus—or any other vehicle for that matter—can last more than a few years is beyond me. Yet, older cars were in much more prominence than new ones.

Of course, the reason for the lack of new cars is probably wrapped up in other things: you pay anywhere from 60,000 kronas (\$3690) for a new Skoda to 138,000 kr. (\$8487) for a Chevrolet, *on top of which* you pay up to 100 per cent in taxes! Then, if you don't want to go to the trouble of getting the mandatory permit for buying a car through legitimate channels, you can pick up a new or used car on the black market after you pay an additional 20 per cent premium. Prices are bound to run high when you consider that—like everything you eat, wear, or use as shelter—it costs at least \$600 to ship a car in from the U.S. or Russia.

I saw cars of practically every description during my brief tour, with the most popular seeming to be Skodas, Fords, Chevys, and '51 Kaisers. Other cars ranged from Cadillac (one) through Opels, VWs, Saabs, Austins, Pobiedas, Zivs, Moskvass, Morris 10s, Volvos, and Fiats. Parked alongside many farmhouses were nondescript Jeeps and four-wheel-drive Dodges. The more economical the car, the better off the owner (as even in the States today), for gas sells for about \$2.75 per gallon. It would be easy for a stranger to pass up a station while driving on the

left side of the road, for they generally consist of a pump out in front of a shack. In Keflavik, however, there were a few modern stations, more like what we're used to here.

On the road into Keflavik, we saw few cars, approaching one only every several minutes. When I asked the bus driver, a Jon Sitgsson, about the lack of the traffic and the condition of the road, his reply was, "This is normal. And up north, you get nothing better than trails—enough for one car only. This road is *good*."

The one road sign I saw on the 30-mile jaunt was the international triangle-shaped sign for a dangerous curve. The streets in the town proper were for the most part paved, though in the



DOWNTOWN REYKJAVIK (capital of Iceland) is spacious, has little traffic.

suburbs they were volcanic rock. Right downtown, some streets were divided, and many intersections used circle islands as in England. Traffic signals were in use at major intersections.

I got the general feeling that Americans were not too well liked. While a group of us were having a cup of coffee strong enough to eat your spoon away if you didn't stir quickly, a rough character came bouncing into the restaurant shouting what sounded like, "Viva, Stalin!" I suppose nobody had taken the trouble to tell him that Khrushchev was now top dog. /MT



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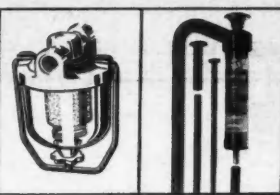
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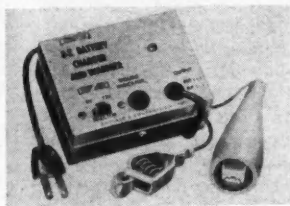


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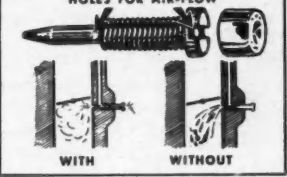
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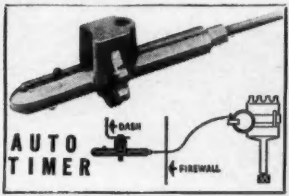


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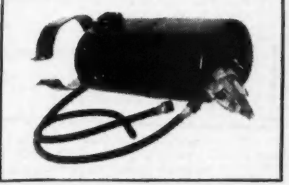


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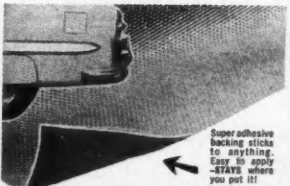
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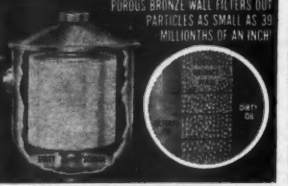
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## "My Greatest Thrill"

continued from page 34

led the race with a 45-second lead over Fangio. But next lap Fangio carved 7 seconds off their lead, then 9 seconds on the next. Fangio did not know it at the time, but in an historic example of underestimating the opposition, the two Englishmen had drawn alongside each other and agreed by hand signals that Hawthorn should win and Collins should come in second. On the face of it it seemed reasonable. With any other driver in third place it might have been easy. With Fangio on a normal day they might just have made it; but this time Fangio was inspired, driving as never before, and their short spell of relaxation was to prove fatal.

By now the alarm signals were out and the whole Ferrari pit was frantically signalling to them to put on a spurt. They did, and next lap Fangio only gained 6.5 seconds, then 5 seconds. Could they hold him off? It still seemed possible.

Fangio told me, "I was still reckoning that I would do well to catch Collins, but suddenly, as I dived down to the hump-backed bridge at Adenau I caught sight of the two red Ferraris close together, and I knew I could win. I was pretty certain they could not have spotted me yet in their driving mirrors, and I knew I must stake everything on wiping out their lead on this lap before the pit crew had time to give them any more signals."

**NOT EVEN FANGIO** has ever driven a lap like that one. He threw the Maserati around that tough dangerous circuit in one long series of power slides that had the crowd gasping. Time after time the car came around almost broadside at over 100 mph, but always under perfect control. The climax came at the end of the long undulating straight, approaching the grandstands. Here, where the cars are flat out at 175 mph, drivers always cut the throttle momentarily as they throw the car into a high-speed drift to take a fast left-hand kink which has a nasty bump in the middle. "This time," said Fangio, "I took it at absolutely full speed without lifting my foot. The car took off with all four wheels in the air and came down right on the far side of the road, but I managed to hold it before it slid right into the hedge and came up the rise to the stands right behind Collins and Hawthorn. I have never driven like that before, and I never want to again."

The sight of him bearing down on the two Ferraris brought the phlegmatic German crowd to their feet cheering deliriously. As the three cars screamed into the almost-circular South Bend, Fangio watched for an opening and nipped past Collins, but the Englishman resolutely fought back and drew ahead again as they came out for the run up behind the pits.

Throwing his car into a four-wheel drift, Collins then roared into the sharp left-hander after the pits. Fangio took the turn even tighter and with two wheels on the grass got past on the inside. And so he stayed, with two wheels clipping the grass, throwing up the dust as he accelerated flat out downhill in pursuit of the flying Hawthorn. It was an old trick normal in the rough school of long distance road racing on South American dirt roads, but not often seen on European race circuits since the immortal Rosemeyer acquired the habit of taking to the grass whenever he felt the brakes of his Auto-Union were not slowing him quickly enough. It succeeded in a way Fangio did not intend, for a flying stone shattered Collins' goggles and he could offer no further challenge (see illustration).

Only Hawthorn now remained between Fangio and victory, and six miles from the pits, Fangio prepared to take him. Once again it was a tight turn on a sharp radius and Fangio clawed his way past. These two had often battled wheel-to-wheel before, and Hawthorn was all set to reply in kind, but down the next open stretch, Fangio nipped ahead of a slower car which Hawthorn could not pass until after the next corner. The vital hundred feet had been gained and Hawthorn could not again get within striking distance. But he hung on, going all he knew during that last lap, and when Fangio crossed the line to take the checkered flag, he had a lead of only 3.6 seconds.

His historic 20th lap was covered in 9 minutes 17.4 seconds at 91.53 mph, a figure which will probably remain unbeaten for a considerable time. And bear in mind it was done not at the beginning of the race, but at the end, when the corners had been made slippery by the heat of the sun and the accumulation of oil and rubber from the speeding cars.

**EVERYONE WHO SAW** this race rates it as one of the greatest drives in the history of motor racing. Some rate that 20th lap as the greatest single feat of driving virtuosity ever seen. But here is the fact which makes it well-nigh incredible—a fact hitherto practically unknown, but which Fangio gave me over lunch that day in London. When he made that supreme effort, the driving seat had broken loose in the chassis! His seat, carefully tailored to size, with deep thigh pads to hold him against the effects of centrifugal force, normally allowed Fangio to concentrate on driving with fingers and wrists, controlling the sliding car with no apparent effort. But during those critical last laps he was straining to hold himself straight in the car, bracing his muscles against the movement of a twisting seat. It was one of the great moments of racing history when a great champion drew on all his reserves to win a victory on which he had set his heart.

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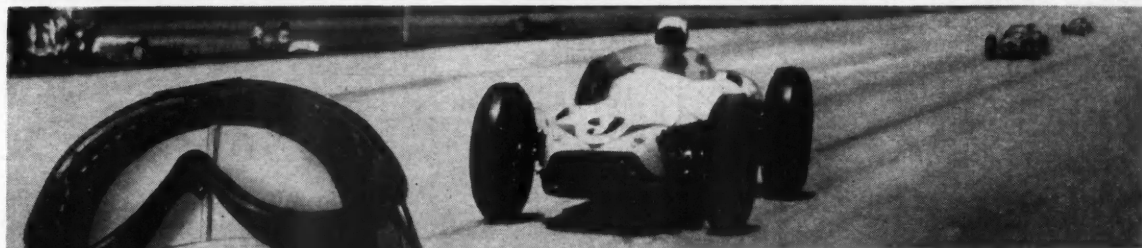
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## De Soto Adventurer

continued from page 58

Texas roads (though it seemed to take forever), crossed New Mexico and spent the night in Yuma, Ariz. Total distance 692.3 miles, driving time 10.1 hours, average mph 68.54, average mpg 12.57. A few hours of driving the next day brought us into Los Angeles where totaling trip records showed the car had scooted 2706.2 miles from Florida to California at an average road speed of 60.95 mph and averaged 12.4 miles per gallon of Mobilgas.

Cost of speed is indicated by comparing the different days' runs. At 46.92 mph we averaged 14.66 mpg. At 58.13 mph, 12.75 mpg. At 68.54 mph, 12.57 mpg. Compare this with 13.59 mpg during a similar cross-country run in a 300-D at an average speed of 58.9 miles an hour. Point! The 300-D was running a 2.93 to 1 rear axle, unwinding the engine 2147 revolutions per mile. The DeSoto uses a 3.31 to 1 ratio which lets the engine turn 2473 revolutions each mile. On this basis, the variation in rear axle ratio alone will save 300-D owners six gallons of gas every thousand miles, which at 35¢ a gallon figures to \$2.10 per thousand. Plus reducing engine wear. (Ed. Note: DeSoto has an optional 2.92 ratio available to order on new cars.)

On the trip home a service station attendant remarked, "You writer guys have it made. All you do is say something nice about every car and the story's written." We told him, as you already know, nothing could be further from the truth. Then we showed him a number of things we questioned on the DeSoto. A dip-stick you almost can't get back in the tube, no head space for a tall person, seats too close to the floor, brakes that get hot and stay that way, higher noise level than luxury cars should have, and that doggone water leak over the forward part of the front door trim panel. Almost every Chrysler-built car since 1957 has this leak. And every dealer has the means to fix it. But new cars seem to leak just the same. Our particular car had some distortion in the windshield, and because it was in my line of vision, the factory is planning to put in new glass. As you know, most all cars have some distortion in the corners of the front glass, but no factory we have talked to wants you piloting a car with defective glass in front of the driver.

What I liked about the Adventurer is harder to pinpoint. Even after 4600 miles the hardtop is a real pleasant car. No bad habits, a good ride, plenty of performance, handling and braking with the best, decorator-designed interiors that pleased everyone at first sight, and a price structure that leaves little to quibble about. It's an impressive package. /MT

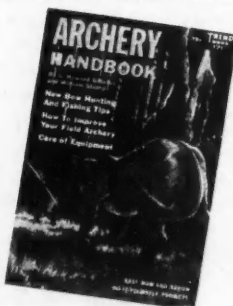
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## MOTOR SPORTS

# SEBRING



'58 race features three categories...  
Porsche" finish... and an amazing pe

AS FLAG DROPS, DRIVERS SPRINT FOR CARS IN LE MANS-TYPE START DESIGNED TO PROVE THAT CARS HAVE WORKABLE SELF-STARTERS.

Story by Jeff Cooper

Photos by Bob D'Olive

**S**EBRING IS MECCA for American sports motorists every year on the weekend nearest the vernal equinox. It's the only event of the year in which we can see everything that is newest and best in equipment, handled by the international masters of the road. There are no klunkers at Sebring and few drivers not in the distinguished category. It's not the first international championship sports car race of the year—that one is held in Argentina—but it is the first in which all major contenders show up with their new season's offerings. A close look at Sebring sets the aficionado up for the year with an appraisal of the competing marques.

This year the race was run in three categories: International Sport, Grand Touring, and Index. The I.S. cars were the full-house sports-racing machines competing for the World's Championship for Manu-

facturers. This year, for the first time, such cars are limited to a displacement of not more than three liters (183 cubic inches)—you can run a car with a bigger engine but if you win it won't count for the annual championship of marques. Because of this, Sebring's organizers barred bigger-engined cars from the sports category in order to permit a larger number of championship entries, so there was a good deal less horsepower on tap this year than last. As you will see, this had no effect on the speed of the race, since a truly sophisticated automobile attains its performance by means other than brute strength.

The Grand Touring category was included to show off the capabilities of true sports, or dual-purpose cars. There was no engine limit here, so the Corvettes could run alongside the Ferrari 250, the Porsche Carrera, the Ace-Bristols and any other

production cars intended for street use and available for general sale. The G.T. race was fully as interesting as the I.S. contest, and more so to the non-racing sports car owner. It was divided into classes, of course, so the Corvette and the Porsche were alone in their respective contests, in theory. But for the prospective buyer of a car for his own use classes mean nothing, and the relative performance of the Corvette and the production Ferrari, or the Porsche and the Ace, or the Triumph and the Healey, was the issue of the day. The splendid thing about Sebring's G.T. race is the fact that each of the production cars is the newest and best of its breed, and yet each has to be a standard item available at your dealer. The cars are tuned to perfection, of course, but not to a degree unsuited for extended use. An over-souped car won't last 12 hours.

The Index race is intended to reward the best performance relative to engine size—in other words a handicap contest. Each car is given a "par" distance to cover in the 12 hours, based on its engine's displacement, and is rated according to the percentage by which it exceeds this par distance. This system is arbitrary, as any handicapping must be, and it does favor the smaller cars, but the big cars have a chance too, as this year's overall winner was sixth on Index. The handicappers are undisturbed about the edge they give the little iron, as the F.I.A. correctly feels that more performance from smaller engines is the measure of engineering progress.

**PRE-RACE SPECULATION** in '58 settled in to a triple pattern. The first contest—the overall victory—seemed to have four challengers: Ferrari, Aston-Martin, Lister, and Jaguar. All of them, of course, were three-liter cars, and both Listers and Jaguars used the same engine—a standard Jaguar destroyed to get it under the displacement limit. There were two Astons, two Listers, three Jaguars, and no less than six major Ferraris (plus six other Ferraris running in different categories).

To handle the three team cars, Ferrari trotted out six heroes of Grand Prix stature. No. 14 went to Peter Collins and Phil Hill, 15 to Mike Hawthorn and Count

von Trips, and 16 to Luigi Musso and Olivier Gendebien. They didn't have Fangio or Moss, but they had an awful lot of depth. As one veteran racing correspondent put it, Aston looked very hot, but Ferrari had the weight.

Thus the four leading marques fielded 13 automobiles of the first rank, all strong contenders for the overall victory. It seemed presumptuous for lesser machinery even to enter. But "P" stands for Porsche as well as presumption, and the Porsches were out in strength. The two factory cars in the I.S. category were 1600s this year, pushing them up from Class F, which they dominate, into Class E, which they're out to get. One was a standard RS car driven by Harry Shell (formerly Schell), and Wolfgang Seidel, but the other was the weird-looking RSK, seen experimentally in Europe last year. This tiny machine features even less frontal area than the RS, superior aerodynamics, less weight, center-point steering, a lower pivot point for the rear swing-axle, improved brakes, and a fully functional five-speed box. Its quickest distinguishing feature is a pair of squarish tail fins on the rear fenders. (See photo, page 63.)

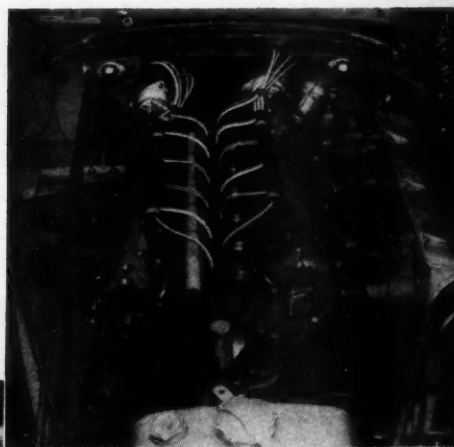
The RSK was given to Sebring's lap-master, Jean Behra, in conjunction with Edgar Barth, the East German ace who defected to our side last year. With its

modest 150 bhp, the Porsche couldn't top with the three-liter cars (though von Hannstein, Porsche's racing manager, claims it has a theoretical potential of 162 mph) but it was awfully quick and awfully reliable. Twelve hours is a long time.

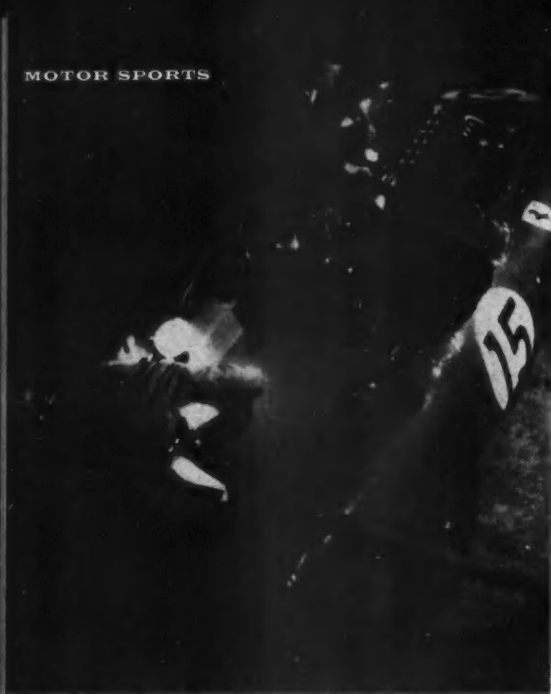
The Grand Touring race seemed to be between the two production Corvettes and the two Ferrari coupes. The contest was well matched in that each marque had one expertly driven car and one with somewhat less talent in charge. (The two West Coast whiz kids, Skip Hudson and Dan Gurney, hung around the number two Ferrari coupe like children at a candystore window. They could have given it a ride second to none on the course, but they weren't asked. Perhaps they should have carried a sign saying, "Have license, will win!")

The Index race looked like a toss-up between Porsche and Lotus. The "Loti" were running at 1100cc (Class G) with eyes clearly on the handicap cup. They weren't going to attack Porsche in its own 1500cc

es... another "Ferrari, Ferrari,  
ng performance by a 3/4-liter Osca



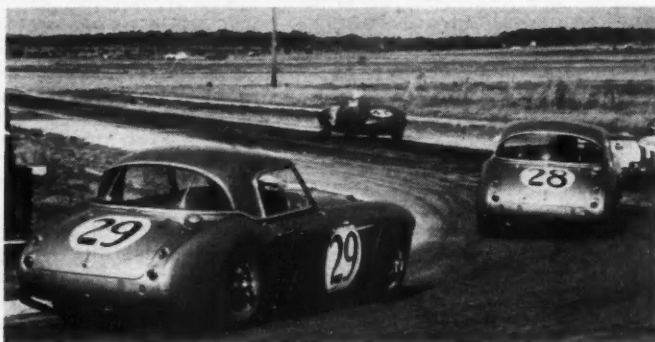
SALVADORI IN ASTON-MARTIN (25), HAWTHORN IN FERRARI (15) BATTLE DURING FIRST PERIOD. ASTON ENGINE IS SHOWN UPPER RIGHT.



FAST ACTION during night stop in Ferrari pits.



FOUR TINY Abarth-Fiats entered; only this one did not finish.



TWO HEALEYS follow a Lotus and the 1500 Osca onto the airstrip.

continued

camp, but were going to go almost as fast with enough less engine to close the index gap. Nobody thought much about the solitary, immaculate,  $\frac{3}{4}$ -liter Osca of the de Tomasos. How blind can you be!

Last year's lap record (3:24.5) was set by Jean Behra in a 4.5-liter Maserati which put out over 400 bhp. That was before the

engine displacement limit was applied to sports cars. This year, as practice closed, the three-liter cars didn't seem bothered. Unofficial times read: Collins, 3:21; Hawthorn, 3:21; Moss, 3:21.5; Behra (at only 1600cc), 3:28.

LIKE ALL INTERNATIONAL championship

sports car races, Sebring commences with a Le Mans start, to insure that each car has a self-starter which actually works, and also that the car will start instantly and every time. First away was Dick Thompson in the hard-top Corvette, but 20 yards behind him and four abreast came the red and blue Ferraris and the green Astons. The rocketing acceleration of the I.S. cars swallowed the Corvette at once and the pits settled for the  $3\frac{1}{2}$ -minute wait to see what the first lap would show.

What it showed was Moss in the Aston-Martin with the situation completely in hand. Coming down the No. 2 straight into the pit corner he was a good 150 yards in the lead and going away. After him, and quite close together, came: Hawthorn (Ferrari), Salvadori (Aston-Martin), Collins (Ferrari), Scott-Brown (Lister) and Musso (Ferrari).

The lead GT car was Dick Thompson's Corvette, but it was in trouble and went right into the pits. This left the G.T. race running Ferrari, Aston-Martin, Corvette and Porsche, in that order.

On the second pass Moss was still farther out front, but the next five places remained the same. Behind these leaders von Neumann's Ferrari had edged Crawford's Lister, and Gregory's Jaguar (No. 9) had been taken by the Porsches as well as by the three-liter Maserati of Dale Duncan.

On the fourth lap Moss was out of sight of the pack, lapping at 3:27. Musso and Scott-Brown went into the pit corner together and bobbled, taking the Lister out of the race and dropping the team Ferrari well back in the field. Behra passed Shell,

## THE RESULTS AT SEBRING

Overall Position	Car	Laps Run	Handicap Position	Grand Touring	Position in Class	Drivers
1	Ferrari	200	5		1-D	Collins, Hill
2	Ferrari	199			2-D	Musso, Gendebien
3	Porsche	193	2		1-E	Shell, Seidel
4	Lotus	179	3		1-G	Weiss, Tallaksen
5	Ferrari	179		1	1-F	O'Shea, Kessler, Cunningham
6	Lotus	179	4		2-G	Chapman, Allison
7	Ferrari	175		2	2-F	Arenis, Reed, Odell
8	Osca	175	1		1-H	de Tomaso(s), Ferguson
9	Lotus	175	6		3-G	Chamberlain, Frost
10	Porsche	174		3	1-G	von Hanstein, Linde, Cuervas
11	Ferrari	172			2-E	Rubiera, Holburn, Malle
12	Chevrolet	170		4	1-10	Doane, Rathmann
13	Osca	170			1-F	Stetson, Beck, Linfon
14	Austin-Healey	169		5	3-F	Gietner, Kunz, Siles
15	A.C. Bristol	168			3-E	Stear, Morris, Harris
16	A.C. Bristol	166			4-E	Fuller, Tweedale, Briggs
17	Austin-Healey	166		6	4-F	Kincheloe, Moore
18	Alfa Romeo	165		7	1-5	VanBuuren, Velasquez
19	A.C. Bristol	162		8	1-7	Milo, McClure, Fortong
20	Triumph	160		9	2-7	Reichschild, Kimberly, Lott
21	Stanguellini	160			4-G	Haas, Ross, Dietrich
22	A.C. Bristol	159			5-E	Love, Moore, Crowder
23	Austin-Healey	159		10	5-F	Cuomo, Ehrman
24	Alfa Romeo	157		11	2-5	Kaplan, Rainville
25	Porsche	153			2-F	Wallace, Holbert, Hudson

(These are the ratings of the first 25 cars of the 41 that finished the race.)

and the two Scottish Jaguars settled into formation with the blue Maserati to bring up the rear of the lead squadron.

On the fifth lap the other Lister dropped out and by the 10th the field leaders were in this order: Moss, Salvadori, Hawthorn, Collins, von Neumann and Behra.

J. P. Kunstle led the 1500 contingent in his privately owned RS Porsche, and the G.T. order remained the same.

Hawthorn and Salvadori had a great race for second place all during the first period, but any talk of the Ferrari's forcing the pace to blow up the Astons is idle. You can't force a man who's out of sight and going away. By the 15th lap Moss had 65 seconds on the field and had lapped all but the first nine cars in the race!

The Aston-Martin coupe fell out with a broken rear wheel mount on lap 15 and left the G.T. race to the Ferrari coupes, the two Corvettes (one of which was obviously in trouble), and the little gray Carrera humming along astern.

By the 25th lap Moss had caught all but the other Aston, the two team Ferraris of Hawthorn and Collins, and von Neumann in the solid-axle Ferrari. It was quite clear that all the Aston-Martins had to do was finish. But 12 hours is a long time.

At the close of the first period Moss took one lap too many and went through his tires. Coming out onto the concrete from the slicker asphalt, his right rear tire blew. With his customary nonchalance he corrected the resulting broadside and tumbled into the pits at about 80 miles an

hour in a bit of a snit. His lead was so great that the blowout hardly affected it, since it was time for the first pit stop anyway. Wheels, and brake pads, were replaced in an instant, and Tony Brooks blasted off to hold the master's lead.

The first period showed the way the cars and drivers compared, and after the drivers changed it was possible to evaluate the two leading marques with some accuracy. Lap times for both Aston-Martin and Ferrari were a second or two under 3½ minutes, but the Astons seemed to have a slight edge, after discounting Moss's sorcery at the wheel. All in all, between Aston-Martin's and Ferrari's best offerings for '58, there is little to choose. The cars are so close in overall performance that driving skill is now the whole issue.

It can be said that the Ferrari finished and the Astons didn't, indicating superior reliability in the Italians. But Aston started two cars and lost two, while Ferrari started six and lost four. This can be read as twice as many Ferrari failures, or as a percentage victory of 33 per cent for the Italians—take your choice.

What took the Astons out was failure of the power train. Moss's car lost its gearbox, while Salvadori's dropped the linkage between shift-lever and transmission. Power train difficulties also took out the Hawthorn and von Neumann Ferraris. The loading of parts between engine and rear wheels on a modern high-performance car is awfully rough.

After Scott-Brown's accident, four Jag-

uar engines remained in the running, but one by one they quit. Valve trouble was the announced cause—the same in each case. It appears that the destroking operation upset stress balances in the grand old engine, and some re-engineering will be necessary before it can run successfully under the new rules.

Shortly after the halfway point (4 P.M.) the remaining Aston and the RSK Porsche quit the circuit, and all tension was gone from the I.S. race. G.T. had settled down, too, as the Corvettes had had too much mechanical trouble to catch the Ferrari, or even the Porsche coupe. So with the contest decided, the remaining interest in the race lay in the comparative behavior of the various marques and models, especially in the less pretentious G.T. cars of the sort most of us drive.

The Healeys were very nice little cars, though hardly the kind we see on the streets. With their neat, factory hardtops in place, spot brakes all around, conspicuous oil radiators in the bow, plain four-speed transmissions and super-tuned engines they are for sale on special order for about \$5000. They go very nicely. With Bill Kincheloe up, one held the No. 1 Corvette and the second Ferrari coupe for all of the hour I watched the Esses. Kinch logged a 4:04 lap in practice—very respectable time for any sort of car a couple of years back.

The Triumphs ran well and all finished, all with hardtops. They weren't as "far-out" as the Healeys, and couldn't lap

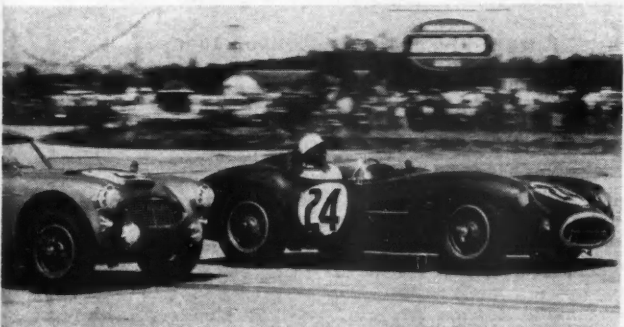
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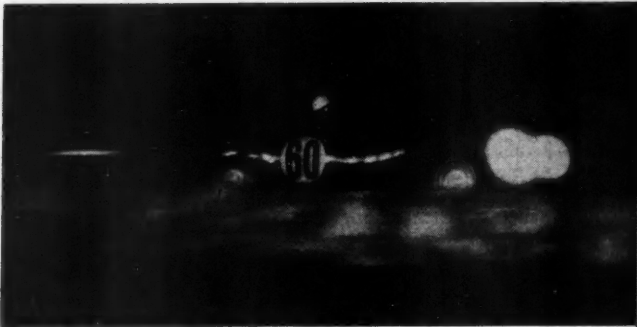
WOLFGANG SEIDEL in this 1600-RS Porsche finished third.



ONE OF LOTUS team, driven by builder Colin Chapman.



MOSS, outside, overtakes Kincheloe's Healey in corner.



INDEX-WINNING 750cc Osca screams by in the darkness.



## KEEPING YOUR AIR CONDITIONER IN CONDITION

Just a little pampering will keep it functioning at minimum expense with a big pay-off in comfort

by Robert C. Scollay

**ON THE FIRST HOT DAY** of the year, a lot of people are going to turn on their automobile air conditioners only to find that the usually pleasant flow of cool air is unpleasantly absent. And in many of these cases the trouble will be bugs—not mechanical bugs, but icky bugs, sticky bugs and squishy bugs. How did the bugs do it? Very simply—by plastering themselves into the cooling surfaces of the condenser located in front of the car radiator core. The cure? Very simple also—two minutes of blasting with a service station air hose to remove the sad remains.

Bugs in condensers are, of course, not the only trouble that can develop in air conditioners. Some are more complex and others just as easily remedied. A large number of them can be prevented if air conditioning owners will take just a little time to understand how their system works and how to care for it. Only too often an air conditioning system is considered in the same class with a heater. It is installed and forgotten until the day comes when it is called upon and refuses to work. By and large the systems are trouble free but they do require a little pampering and attention.

**FOR A BETTER UNDERSTANDING** of what makes an air conditioning system tick, let's review what happens to keep us cool. In the first place the system is filled with Freon 12, which, for the benefit of quiz show participants or aspirants, is known chemically as dichlorodifluoromethane. This peculiar substance is a vapor at normal pressures and temperatures as it has a boiling point of  $-21.7^{\circ}\text{F}$ .

In the system this gas under low pressure is drawn into the compressor, where it is compressed to a higher pressure and incidentally becomes quite hot in the process. The hot gas is pumped to the condenser, located in front of the car radiator in order to receive a maximum flow of air from the forward motion of the car and from the car fan.

As the gas passes through the condenser—a series of finned tubes—it cools and condenses into a liquid under high pressure. The liquid is then fed into the evaporator in the cooling case through an expansion valve which meters the rate of flow to the evaporator. In the evaporator—also a series of finned tubes—the liquid Freon begins to boil and its temperature drops to the freezing point or below because it is no longer under high pressure.

As the Freon boils back into a gas, it draws heat from the tubes and fins of the evaporator to a point where they become very cold. One or more fans or blowers

activities to grinding valves or adjusting carburetors. Some of these people have been known to attempt to put oil in a compressor. In this probably well-meant but misdirected effort they lost a considerable quantity of the Freon sealed in the system; without the proper equipment they would not have been able to add oil in the first place. Furthermore the chances are that there was no oil immediately available that remotely resembled the very special oil used in air conditioning compressors. Any fiddling of this type or with any of the Freon line connections can be very dangerous. The Freon or mixture of oil and Freon may be released under pressure and if it should strike a person in the eyes can cause painful and serious injury.

Taking your system to an expert air conditioning service man for a checkup at least once and preferably twice a year is your best bet to avoid trouble and keep it operating at peak efficiency. He checks the Freon charge in the system, inspects for leaks, checks the compressor oil level, the compressor belt and clutch, washes and deodorizes the air filters, and cleans the evaporator and condenser. The whole job, provided it is not necessary to replace parts or add Freon, will, on the average, not cost much more than a lube and engine oil change. Those who are penny-wise will have these checkups made during the winter months because most air conditioning servicemen are willing to charge less during off-season. In addition, if you wait until the hot weather arrives, you may find yourself waiting for an appointment or in a long line.



then force air from either inside or outside the car across the evaporator tubes to provide a flow of cool air into the car.

**WHILE THERE ARE MANY THINGS** you can do to keep your system in top shape, such as keeping the condenser clean, most service and maintenance jobs are best left to an expert. Babe Stapp of Los Angeles, who has been in the automotive air conditioning business since 1950, tells us he has had to straighten out several messes made by misguided tinkerers or others who should have confined their

**IN BETWEEN CHECKUPS** there are a number of things you can do to protect your investment in this most enjoyable piece of equipment. Here are a few tips:

Strange as it may seem, you should turn on your air conditioner occasionally even if the weather offers below-freezing temperatures. This will not only exercise the unit to keep it healthy but can be

## AIR CONDITIONER

continued

helpful in others ways. For example, if you find all windows in the car steamed up—turn it on. Most systems will remove about five quarts of water per hour from the air in your car and you will find all windows clear in a few minutes. You don't have to freeze to death in the process if you have a separate heater because you can turn it on at the same time.

In cool weather when the sun is very bright and you feel the effect of solar heating, which may make one side of the car hot and leave the other cold, you can use both heater and air conditioner together for maximum comfort by adjusting the air outlets and controls.

The business of giving the system an occasional workout can save you money. If the compressor remains idle for long periods of time, the seal retaining the Freon 12 in the system is liable to become dry and brittle to a point where it fails to function properly. This in turn means \$11 to \$15 for replacing the seal, plus anywhere from \$7 to \$10 to replace refrigerant in the system.

Still another advantage of occasional year-around use of the system is that it provides a means of determining if it is in operating order at all times. This is extremely important. For example, if a leak has developed which allowed the

Freon to escape, it may be replaced by air, moisture and corrosive elements which can ruin the entire system.

**ANY TIME THE SYSTEM FAILS** to function it should be shut off and left off until the cause of the trouble can be determined. Among other things, the trouble may again be a leak through which the Freon has escaped. In most systems, when the Freon escapes, the compressor oil goes with it. This means that if you persist in attempting to operate the system, the compressor may wind up a total wreck for lack of lubrication and will cost you somewhere between \$85 and \$200 for a replacement. To shut the system off is usually just a matter of flipping the proper switch. This switch operates a magnetic clutch which couples the compressor to its pulley only when the system is in use. Some systems, however, do not use a clutch. These are equipped with a modulating valve which removes the pumping load from the compressor and allows it to continue to run without load. If your car is equipped with such a system, you can save a lot of possible trouble if you will temporarily remove the belt from the compressor.

**YOU MAY AT SOME TIME FIND** that while under way on a hot day the coolness of the air flow starts to diminish and finally only warm air is coming out of the vents. This is probably due to an

accumulation of ice on the evaporator tubes and occurs most frequently during very humid weather, especially if the unit is being operated on LOW blower speed. If this icing occurs, first check the blower speed and if on LOW, switch it to the highest range. The greater volume of air against the tubes may serve to dislodge the frost. If this fails, shut the system off and wait until the ice melts off the evaporator tubes. Repeated icing, especially under low humidity conditions, may mean a malfunction that can be straightened out only by your serviceman.

Another cause of icing may be kinked lines leading to the evaporator. Kinks or sharp bends in these lines can disturb pressure regulation and interfere with proper operation. Of course these lines don't kink themselves and the kinks are usually the result of carelessness while other work was done in the engine compartment. A word to the wise is sufficient, so a friendly bit of advice to anyone working on your car's innards can again possibly prevent air conditioning trouble.

Everyone in the rapidly growing ranks of air conditioning owners knows the pleasure and comfort a properly functioning unit can bring. Keeping it in top shape is largely a matter of regular checkups, keeping your eye open for the first signs of trouble and getting it into competent hands before the trouble becomes expensive. /MT

## GRIPES of WRATH

What happens when you write Detroit a complaint letter?  
Here are some case histories of follow-through . . .  
direct from Detroit files.

by William Carroll

**"FLESH WILL HEAL**, but your Ford dealer refuses to fix the seat spring that tore my trousers."

"There are only 70,000 miles on my Buick; now the front wheels shimmy."

"This Plymouth is the worst car I've ever owned. When I start the engine it runs too fast for the first five minutes."

Detroit shudders daily under the impact of letters like these, over 100,000 of them every year from irate car buyers not satisfied with their new "pride and joy." Though divisions of each corporation

have minor differences in procedure, results are the same. Letters, directed to the Service Department are usually answered within 48 hours. Complaints directed to officers of the corporation take longer, for they must filter through channels to service correspondents, where a reply is made. The correspondents read each complaint, underline basic problems for tabulation by the engineering department, and use previously dictated paragraphs to compose a reply.

Young buyers considered prospects for

future cars, loyalty buyers driving the same make for a number of years, and prominent buyers who influence other people (such as your city's mayor) get top-notch attention. Other motorists just a little less. But no matter who—or what the complaint—each and every factory follows squawks to their bitter end. As one factory service manager said, "When we have a dissatisfied customer we want to know about it—so we can solve his problems and at the same time help the engineers solve ours."

This sounds good and means nothing—unless you are able to do what MOTOR TREND did.

We checked the complaint files in Detroit!

**AS YOU KNOW**, in the past year MT has received carbon copies of dozens of complaint letters our readers have sent to Detroit, telling of their trouble with new cars. We made a random selection from the file, went to Detroit and asked the factory service managers to show us their handling of each individual case. They did, and we were amazed. Not only at action taken by the factory to make a customer happy, and money spent, but at the realization that 90 per cent of complaint letters result from trouble with just one person. But first read these MOTOR TREND case histories and see if you can "second-guess" us as to who's really responsible.

**No. 1 Chevrolet, 1957 Sport Coupe**

**Owner complaint, May 15, 1957:** "Poor brakes which apparently caused an accident."

**June 21, 1957:** Factory refinished right-hand front door, re-installed headliner, replaced chrome at no charge. Brakes checked by three people who found no defects.

Owner satisfied.

**No. 2 Chevrolet, 1957 Bel Air**

**Owner complaint, Feb. 15, 1957:** "Poor steering and unwarranted repair charges on new car."

**Feb. 27:** Factory replaced steering bushing. No charge.

**April 3:** Factory aligned front end. No charge. The Chevrolet Tech Rep made the following comment on his report, "The abuse and vulgar language, plus cussing, I took over the phone makes me feel I should not contact this owner personally."

Owner not satisfied.

**No. 3 Plymouth, 1957 Sport Coupe**

**Owner complaint, April 24, 1957:** "Moved after buying car and dealer in other state refuses to be concerned with 16-item warranty service list."

**April 5:** Dealer wrote factory for approval of warranty claim.

**April 8:** Factory approves request and notifies dealer.

**April 24:** Owner, unaware of approval, writes factory.

**May 15:** Work completed and claim submitted by the dealer to the factory for payment of claim.

**No. 4 Plymouth, 1956 Six**

**Owner complaint, June 17, 1956:** "Engine knocks on cold start."

**June 28:** Factory tells owner, Noise is cold piston slap.

**July 18:** Dealer services car, but fails to cure noise.

**June 1957:** Service Representative advises dealer that noise is caused by faulty piston pins.

**Aug. 25:** Owner again complains to factory of noise.

**Aug. 30:** Factory disclaims any further interest.

**Sept.:** Meanwhile a factory engineer inspected the engine and found three improperly fitted pistons. Engine replaced at no cost to owner. Owner satisfied.



So some people are happy. Some aren't. What are your chances of buying a headache?

We found that the number of complaints reaching factory attention, and these are the really serious problems, varies from one to two per cent of cars sold. Based on our inspection of the files, most people write the factory too soon, give too little time for local "brass" to take action, magnify their problems and because of two rattles assume the car is falling apart and want a new one. Final verification for these observations came from a recent issue of "Automotive News," the trade paper for car dealers, which said in part:

1. "Lack of know-how on the part of the dealer's service force to either diagnose the cause of the trouble or to fix it, caused 40 per cent of the complaints."

2. "Giving a customer the feeling that he was getting a brush-off caused another 30 per cent."

3. "Ten per cent of the complaints came from owners who moved from one dealer's area to another, and were not being treated as respected customers."

Way down in the percentage basement

were complaints based on a shortage of parts, dealers who had no interest in service, or letters from hotshots out to get something for nothing. Further support for results of the survey came to light from interviewed service managers. Said one factory man, "Percentage-wise our complaints most often concern relations between dealer and customer." Another told us, "Our dealers sometimes lose sight of the importance of cars to the people who own them."

"Poor handling of the owner's first problem (by the dealer) causes us over 90 per cent of our complaints," commented the service director for one of the big three. (Is there any question now as to who seems responsible for most complaints?)

Where this leaves readers of MOTOR TREND was buried in a previous article (Jan. '58, "Are the '58s Built Any Better?") which said in part, "With all things being equal, buy from the dealer with the best service facilities."

Should trouble occur, make a list of the problems and take them (and the car) to the dealer's Service Manager. You'd be surprised how often complaints are handed the salesman, telephone girl or some other person who has nothing to do with bringing your car to factory standards.

Give his mechanics adequate time to make the adjustments, then inspect the work on each item before taking the car home. Should something not be to your satisfaction, get the Service Manager on the hook—and find out why. Some problems really do suggest more than a couple hundred miles of break-in before diving in with hammer and wrench—items such as slight axle noise, differential gear hum, excessive oil consumption during the first thousand miles, or paint that blisters. Most dealers will ask you to wait a couple of months on paint blisters so that all possible defects in the finish will show up and can be eliminated in one trip to the body shop.

On the chance you are still not happy with what has been done for you by the dealer, write, wire or 'phone (for the quickest service) the local zone office for your make of car, usually located in the largest city in each state. The man to talk with is the Zone (Region or District) Service Manager, whose sole job in life is to see that your car is brought to factory specifications. That is what you're paying for, what you have a right to expect and what factory "brass" say they want you to have.

Though as one service engineer put it, "We do get a little unhappy with people who ask us for a new car because, 'We've driven our car for two years and the right door rattles just like it did when the car was new.'"

/MT

## questions from readers

**Q. SWITCHING TO DIESEL.** I want to install a diesel engine in my '55 Ford station wagon. Can you suggest a suitable installation? Lyndon Smythe, Boston, Mass.

A. This is an expensive swap. We know of no diesel engine that would give you anywhere near comparable performance with the present engine. Two possibilities would be either the Ford or Mercedes diesel—both underpowered for your Ford. We wouldn't recommend it.

**Q. LOW OIL PRESSURE.** I have completely overhauled the engine of a 1937 Packard Super Eight. Oil pressure is negligible with a warm engine. I am positive that rod and main bearings are not at fault. Any suggestions? Henry Frankenthaler, Toledo, Ohio.

A. We suggest you check cam bearings and oil pump output pressure. These items are most frequently overlooked by mechanics. Before going to a lot of trouble be sure to check the oil pressure gauge. Occasionally they go bad.

**Q. AIR SUSPENSION.** I want to install the '58 Pontiac air suspension on my '56 Pontiac. Can this be done? Rodger Simonson, New York.

A. We were afraid someone would ask that. Yes—it can be done, but what an expensive and disappointing job! Why not just trade your '56 in on an air-cushioned '58? You will be better off in money, time and performance.

**Q. EXPENSIVE PROPOSITION.** I own a 1918 Auto Electric and want to install nickel cadmium batteries. Will this work? Dutch Vogle, Little Rock, Ark.

A. They will work fine. You will need about \$1250 for the proper amps. That will buy a lot of lead-acid batteries.

**Q. NO COMPARISON!** Can the present recession be compared with the depression of 1930 in regard to automobile production? Harvey Curtis, Long Beach, N.Y.

A. Absolutely not! We all know that present automobile production is being curtailed. In 1929, '30, '31 and '32 automobile production amounted to 4½ million, 2½ million, 2 million and 1 million cars. The present decrease in production cannot be compared numerically with the figures of that era.

**Q. WHAT DOES IT MEAN?** In timing an engine, what is meant by TDC? The mark on the crankshaft pulley refers to which piston? Ralph Testy, Yonkers, N.Y.

A. TDC means top dead center. The tim-

ing mark is synchronized to the number one piston.

**Q. DESIGN CHANGES.** Were there any design changes in the 1938 and '39 Packard 12s? Robert Goldsmith, Tulsa, Okla.

A. The '39 had the gearshift lever on the steering column instead of on the floor. On some models alternate grille bars were painted on a '39.

**Q. HIGH TEST OR REGULAR?** I am buying a '58 Ford six-cylinder Custom 300. Being interested in economy rather than performance, could I use regular gasoline without ill effects, or should I use high test only? William E. Benson, San Diego, Calif.

A. Regular gasoline can most certainly be used. The spark advance on this car was factory-set for regular grade gas.

**Q. IS IT A CLASSIC?** Is the 1938 four-door Buick convertible a classic? Lou Hansen, Philadelphia, Pa.

A. No—at best, it is a special interest car. It was a very beautiful car and rather rare. From an engineering standpoint it was unique in that it featured independent coils on each of the four wheels.

**Q. DURABLE AND ECONOMICAL.** We want to build an unusually durable automobile with the express goal of economy and low upkeep. Our problem is the powerplant. Is it possible to buy an electric motor unit to drive this car? Gordon R. Babcock, Detroit, Mich.

A. We get many inquiries regarding electric power drive units for automobiles. Unfortunately, it is not practical except as a novelty item. The electrical power requirements for such a vehicle would necessitate hauling a trailer full of batteries or a gasoline-driven generator capable of putting out enough horsepower to drive the car without electric motors. Ever consider steam?

**Q. GUINEA PIG?** Is it true that Oldsmobile is the experimental car in the General Motors' line? George Murtagh, Pasadena, Calif.

A. We doubt that an affirmative answer would be proper on contemporary models. During the '30s Oldsmobile generally had new ideas incorporated a year or two before other General Motors' products. As an example, we saw 1937 and '38 Oldsmobiles with Hydra-Matic drive.

**Q. GASOLINE CONSUMPTION.** Will a limited-slip differential increase gasoline consumption? H. J. Cooper, Hopewell Junction, N.Y.

A. No—but under certain conditions, such as ice, snow and mud, it will increase mileage by reducing wheel slippage.

**Q. BIRD-WATCHERS.** Is the Packard cormorant, as used on the 1940 models, the

same as used on the '36? Lewis Walsh, Clearwater, Miss.

A. The birds are interchangeable; the bases are not. You can remove the bird from a 1940 and install it without modification on the '36 cap.

Many enthusiasts have ruined these ornaments because they do not know how to remove them. In the later models loosen the nut holding the chrome strip in place on the top of the hood. Gently push the radiator cap toward the windshield approximately one-half inch. Then lift up on the cap and it will clear the radiator shell. Turn the cap upside-down to remove the three screws that hold the bird in place. The third screw wedges the wings in place and should not be removed unless the bird is to be replated. Some birds have a collar which is threaded and which takes the screw that wedges the wings. On others, the base of the bird is threaded. If you have the type with a collar, do not attempt to remove the collar, because the ornament will be ruined. Have the body replated with the collar in place, then re-tap the threads if necessary.

**Q. STEERING WHEEL IN LAP.** Is it possible to reduce the length of the steering column in my '57 Corvette to get the wheel out of my lap? V. T. Wallder, Nutley, N.J.

A. Yes—this can be done by any competent mechanic. It necessitates cutting down the steering shaft and housing, and about \$18 worth of machine work.

**Q. JUST A LOT OF WORK.** I own a '54 Austin A-40 and would like to install a Ford V8 60 engine in it. Can this be done? Robert Gonnerman, Los Angeles.

A. We don't recommend this installation. Two similar jobs that we know of produced much more work than performance.

**Q. QUICK CHANGE.** I want to install a set of quick-change wire wheels on my car and would like the name of some company which can supply me with adapter hubs that bolt on the stock drums. Harry T. Hillson, Stamford, N.Y.

A. These splined adapter hubs can be purchased from Newhouse Automotive Industries, 5805 E. Beverly Blvd., Los Angeles 22.

**Q. A CLASS DIVIDED.** Our physics class at school is divided on the opinion of whether or not the top speed of a car can be increased by installing larger diameter tires on the rear. Could you settle this for us? Dennis N. Corley, New York.

A. The top speed would be increased provided the engine produced enough torque at the rear wheels to reach the same maximum rpm that it did with smaller tires.

It is impossible to answer any letters personally; we will answer the most interesting and most frequently asked questions in this column.

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## HANDY hints

by Rodger Darling

**SPARE KIT**—On long summer trips you'd be wise to carry a small, neatly-boxed, spare-parts kit. Although the only way to be prepared for every possible trouble would be to tow a spare car, records show that the following often need replacement on the road: Fuses, fan belt, spark plugs, fuel pump, distributor cap, condenser, rotor and points. Even if the driver lacks tools or know-how, having these vital parts handy can prevent costly wait-overs while a local garage sends to a distant dealer—particularly with less common cars.

### "BUT I DIDN'T KNOW IT NEEDED OIL"

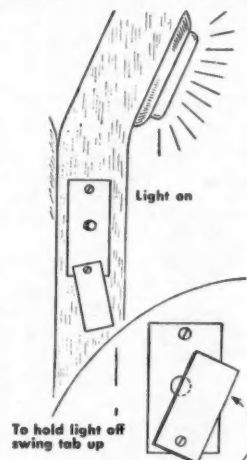
—Take a tip from those foreign two-cycle, oil-in-the-gas cars with the forget-me-not "ADD OIL" tag dangling from the gas cap. If your car is driven by other members of your family who get gas without a thought of oil or water (which can mean repair bills if your car is a "burner" or "dripper"), paint or tape a small sign under the gas-cap door asking the service station attendant to "PLEASE CHECK OIL AND WATER."

**QUICK-COOL**—In hot-weather mountain driving, when engine heat nears the boil-away point, try turning the ignition off as you roll down-hill (remaining in gear, of

**DOORS LOCKED? WINDOWS CLOSED?**—How often have you carefully "locked" your parked car only to discover you've left a door unlocked from within? And do you anxiously peer in through the glass to see if perhaps you left a window open on the far side? Here's a way you won't have to look twice to see that everything is "buttoned

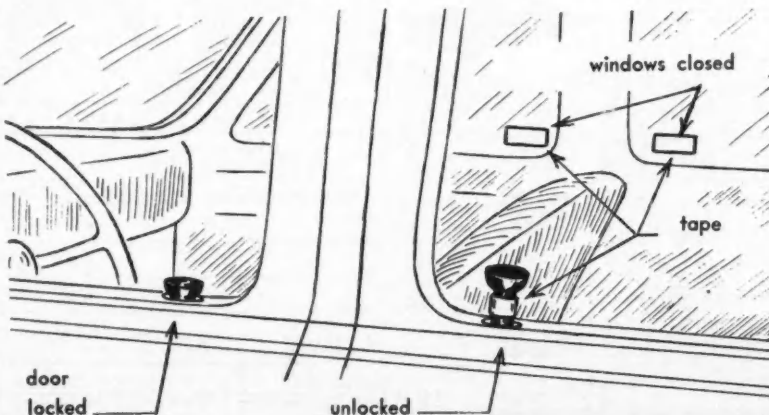
course), or with automatic transmission, run down in LOW range, "against the engine." Either way, considerable raw gas is swept through the hot cylinders where its evaporation has a cooling effect—probably enough to keep coolant from boiling over in an emergency.

**SAVE YOUR BATTERY**—When work is done on your car—by you or by a mechanic—doors are often left open for some time, allowing interior lights to burn, needlessly draining the battery. You may be able to hold down the door switch with a strip of friction tape, but for positive prevention of



this battery waste—especially when car is left for service station work—screw a small metal tab to the switch as illustrated. Out of the way for normal courtesy-light operation, it can be set to hold switch in "off" position whenever car is to be parked with door open.

up": Paint or tape a white band around the base of each upraised doorlatch button. You can't see this stripe when the knob is down—a quick-look signal that all doors are locked. Likewise, a small square of adhesive tape stuck inside each window near the bottom of the glass will show you at a glance that all windows are up.



## MOTOR SPORTS

continued from page 73

with them, but they seemed a good match for the Alfa Romeo Giuliettas. Several times I saw a TR close on a Julie as they came out of the corner leading to the main straight, only to have the smaller car draw away as they got up into the "happy zone" of optimum revs.

The Bristol-powered Aces ran well too, but their speed has been matched by the new model GT Carrera in coupe form. How one of the new Carrera Speedsters compares remains to be seen.

Porsche's famed reliability was not evident this year. While the marque racked up third overall, 10th overall and third G.T. with the same car, and a class win for each, it lost 1500 (Class F) by default and could place no better than fifth on Index. Three of the four 1500-RS cars failed to finish and the fourth was in the pits so long that the lone 1500 Osca slipped by to win the class. The brilliant RSK car, of which so much was expected, was sidelined by an exasperating oil seal failure and let only three cars finish out of seven entered, with one of those out of contention with the collywobblers.

Of course the 1600-RS and the Carrera *did* shine, so the day was not lost. This 1600 Spyder (about 150 horses at 7200) is murder in either straight RS or K-type cars. Only the very best three-liter cars can hold it—two liter machines can't.

And the 1500 Carrera is certainly a choice example of a dual-purpose car. It ran without a hitch for the whole distance, and steadily showed 130 mph each time on the main straight.

By sundown, the dark horse of the contest had shown its colors. A little, red, bullet-shaped roadster with "60" on its side had not been noticed much at first, but as the hours passed more and more people, both on and off the course, began to talk about it. It was the ¾-liter Osca of the de Tomasos, and it was a doll! With just 45 cubic inches it whistled around the course in the company of its bellowing companions and never asked a favor. Its elegant grace in turns was a delight to behold, and it seemed to enter a corner faster than any car on the course. It took over the Index lead at once and was never threatened. From the first hour it had the Index in its pocket—as long as it finished. And it finished in absolutely concours condition, its tiny engine as clean and crisp as when it came from the factory. Its general performance level is very close to that of a GT Carrera—the two cars finished in the same lap, and I watched them circle for an hour before sundown without changing position. This little Osca is the best car the company has turned out yet, and that's saying a lot!

After dark the race slowed a bit as the object was now to finish, not to change positions much. The exception was the

continued on page 85

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I had the car taken to the dealer where I bought it and their service department removed and dismantled the engine. They discovered that the main oil galleries had never been drilled out at the factory and that the car had been run for 10,000 miles with virtually no oil. The only thing that kept the engine operating was the Wynn's Friction Proofing and, when I stopped using it, the engine immediately stopped operating. I found this to be so incredible that I had to write this letter and, needless to say, I'll never stop using Wynn's Friction Proofing again.

*Al V. Hayes*

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(for documentation of Mr. Hayes' letter write Wynn Oil Co.)

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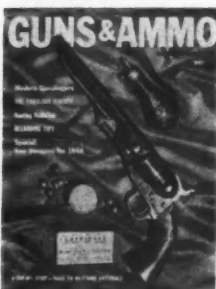
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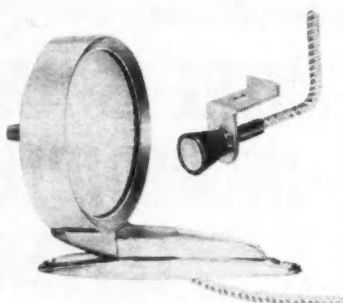
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# TRENDS in New Products

**ADJUSTING** an outside rear view mirror, particularly if it is mounted far forward, has always presented a problem. The new Vu-Matic has solved this problem by providing a dash-mounted control knob. Rotating the knob in the forward position tilts the mirror up or down. Pulling the knob out and ro-



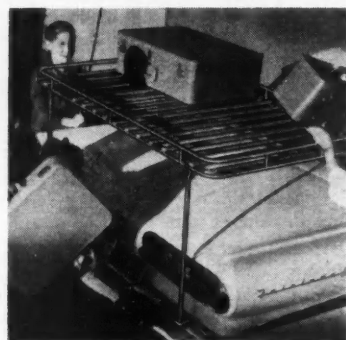
tating it tilts the mirror sideways. The unit is designed for mounting only on the left fender; however, a non-adjustable, matching unit is available for mounting on the right. The non-glare mirror is encased in a stainless steel head and is replaceable. The retail price, including Federal excise tax, is about \$10.95. The manufacturer is Alted Corp., Box 118, Bangor, Mich.

**"SPAIRE IN A CAN"** is a novel and versatile new product. It can be used not only to inflate an average-sized tire from zero to 22 pounds in six seconds, but it can also serve effectively as a fire extinguisher. In addition, it can be used to cool down fuel pump and fuel lines when vapor lock occurs, to dry condensation on spark plugs and other ignition



components and to inflate air mattresses, rubber boats and pneumatic equipment. The material is furnished in a pressure can complete with a mounting bracket and hose assembly. Retail price is about \$2.50; the product is manufactured by Liquid Glaze, Inc., 704 Sheridan St., Lansing, Mich.

**GIVING THE FAMILY** coupe or sedan the extra luggage capacity of a station wagon, the new detachable Stylerite Carri-All provides an additional 36 x 62 inches of deck space, while allowing uninterrupted rear vi-



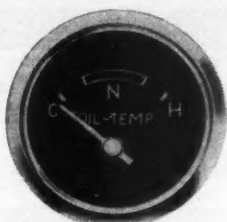
sion. The frame and supports are chrome-plated steel tubing and the deck is hardwood. A ball-joint mounting with telescopic rear supports permits access to the trunk. The mountings are secured on bumpers and fenders, and it is claimed the carrier can be detached in two minutes. When not being used, the unit folds flat for compact storage. The price is \$79.50 postpaid and the carrier may be ordered from The Benmatt Organization, Inc., 3447 E. 15th St., Los Angeles 23.

**CAMPING-OUT MOTORISTS** can now avail themselves of a revolutionary new tent that has no poles or supports of any kind. This new shelter, supported by air, is called the Air Strut tent. Sewn into sleeves at several



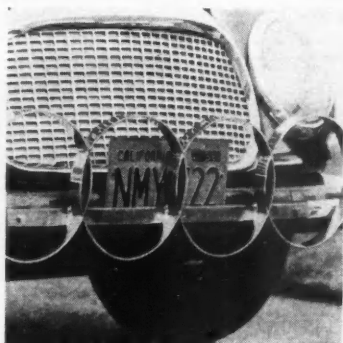
points on the walls and roof are heavy-duty vulcanized rubber tubes. Inflated by means of a special pump, these tubes become rigid girders of air which raise and keep the tent up. The tent has a screened window with canvas flap, sewed-in floor, screened door with zipper and a storm door with zipper. The Air Strut tubes are replaceable. The tent is available in four sizes ranging from 7 x 7 to 10 x 14 feet. Prices are from \$79.50 to \$124.50. It is manufactured by Morsan Tents, 10-27 50th Ave., Long Island City, N.Y.

**VOLKSWAGENS** are quite skimpy on instrumentation, and among other things there is no indication of engine temperature. An electric oil temperature gauge such as the Motometer Model 1830/40 provides a constant check on this important factor. Made especially to match VW and KG instruments, the gauge is a compact 1 1/8 inches in diameter. The illuminated dial indicates cold,



normal and hot. It mounts on or under the dash and the temperature sensing unit may be installed in 60 seconds. The unit may be obtained from A. R. Fisher Products, 21-21 44th Drive, Long Island City 1, N.Y. The price is \$12.95.

**DKW OWNERS** can now protect their somewhat vulnerable grilles with a new bumper and grille guard. Patterned after the Auto Union insignia, the guard is constructed of



chrome-plated, cold-rolled steel. There are no holes to drill and installation can be made in 20 minutes. The price is \$23.95, and it is manufactured by Calvin Metalcraft, 7034 Tampa, Reseda, Calif.

**PHOTOGRAPHY ENTHUSIASTS** will be interested in a new substitute for a camera mount which utilizes your car as a stable base for your camera. It is called the Trivac. The fully adjustable head is attached by three 2½-inch vacuum cups. These cups will adhere to



either the car glass areas or most portions of the body. The unit is a lightweight seven ounces, measures 2½ inches high and 4½ inches across the cups. The price is \$6.45 postpaid. The mount is available from "Trivak," Dept. 15, I.D. Enterprises, 1222 N. Menard, Chicago 51.

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# PRODUCT USE TEST

## SECURITY AUTO TIRE SAFETY SEAL

**IF YOU CAME** upon a scene where a man was deliberately hammering a four-inch spike into the front tire of his own car, you probably would give at least a flash thought to calling the paddy wagon or the nearest psychiatrist.

That's exactly what we did—drove nails into our tire, that is—when we tested a new liquid compound billed by the manufacturer as "positive protection against punctures, slow leaks, cuts, and pinches" when injected into tubeless or tubed tires. Although performing this act with considerable hesitancy, it is positive proof of the lengths we'll go to in testing products for the benefit of MOTOR TREND readers.

Not only did we pound a nail deep into our well-treaded tire, but we allowed its further abuse by running forward and backward over a board in which four three-inch nails protruded menacingly. After such treatment the tire must have felt as perforated as a kitchen sink strainer.

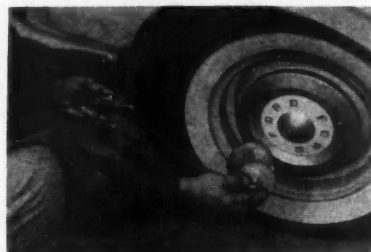
Then we pulled the nails out. For a second, that familiar hissing sound when air escapes was heard, and our foreboding thoughts when we started this experiment seemed to be justified. But, we got behind the wheel of our station wagon and drove the car a few blocks, all the time keeping on a street where several service stations were closely spaced—just in case.

Our natural skepticism of so-called "miracle" solutions to long-standing problems—in this case tire punctures—seemed to go out the window as the expected simply didn't happen. The tire, except for a loss of an almost immeasurable pound or so of air pressure, stood up and performed its normal function—not for just that particular day of testing, but for an 1100-mile weekend trip as well. And it's still going strong 6000 miles later.

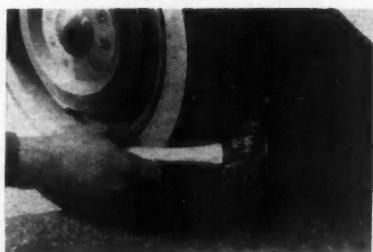
The liquid that we injected into our tires is called Security Auto Tire Safety Seal. It has the liquid consistency of canned condensed milk—even looks like it a little—but it has a sweet, perfumy smell. Once injected into a tire through the valve stem by a disposable device furnished with each four-can purchase of the material, the compound spreads throughout the casing or tube to perform its sealant function immediately. The material adheres to the surface of any puncturing object such as a nail, piece of glass, etc., preventing the escape of air. The milky substance covered the nails that we removed from our tire and obviously "plugged" the holes created by these nails.

Security Auto Tire Safety Seal, according to our test, is a good puncture preventative, but here's one suggestion worth noting: Before injecting the compound into your tires, be sure they are in perfect balance. Ours weren't; consequently when we drove the car at extremely high speeds—above 85 mph—we experienced a constant reverberating thump that was not exactly enjoyable.

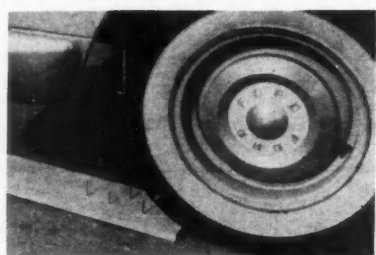
At the same time we put the liquid into



**INJECTING** Security Auto Tire Safety Seal into tires requires air pressure.



**TESTS INCLUDED** pounding spike into our car's well-treaded tubeless tire.



**THEN WE RAN** same tire over a board studded with four three-inch nails.

our tires, the sealant was also injected into the tires of an almost new 1958 Corvette. Driving that car for short spurts in excess of 100 mph didn't produce any such thumping condition that we had experienced, indicating that the material *doesn't affect balanced tires*.

Besides the evidence produced by our test, the manufacturer makes several additional claims: The compound is absolutely harmless to tube or tire; it is a rubber preservative which adds to the life of the rubber; it will not gum or ball up, and it stays soft inside the tube regardless of below-freezing outside air temperatures. It is effective as a coolant, reducing tire overheating. Tubes are re-usable and can be vulcanized, and one treatment of Security Auto Tire Safety Seal is good for the life of the tire or tube. Need we say more?

—James E. Potter

## MOTOR SPORTS

continued from page 81

Lotus contingent, which pushed forward now to attack the overall position of the Ferrari coupes.

Even so the strain was still there, and at 7:30 the Hawthorn/Trips team Ferrari dropped its propeller shaft and retired. Shortly thereafter the von Neumann Ferrari lost its power train and left the lists, after a beautiful performance in the charge of both its drivers.

Linge, in the Porsche Carrera, kept charging up to challenge the number two GT Ferrari, but von Hannstein signalled him to slow down each time around. It would have been nice to knock off the three-liter car, and it was within reach, but von Hannstein decided a third place and first in class was better than no place at all, and some silly failure of a small part could wreck the show.

The Lotus had sewed up the second and third spots on Index, behind the elegant little Osca, while the two lead Ferraris and the 1600 Porsche followed with almost identical handicap standings.

And so another Sebring went down in the books. Records fell again as Moss set the course lap at 3:20 flat (93 mph) (against 3:24.5 for last year) and the winning Ferrari of Peter Collins and Phil Hill traveled 200 laps, as against 197 for the Fangio-Behra Maserati of 1957. This is a distance of 1040 miles at an average of 86.7 mph. The 1600cc Porsche which placed third (193 laps) would have been third as well in last year's race, but it would have won every previous Sebring.

By an odd coincidence, the first three places at Sebring were exactly the same as those at Argentina, the year's first international sports car race. And to make it still more curious, Sebring's G.T. results read the same. "Ferrari, Ferrari, Porsche" seems to be some sort of rut. Thus Ferrari stands well ahead of the field in 1958's sports car championship. But don't discount the Aston Martins—they could still come from behind.

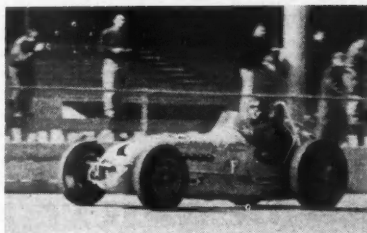
**THERE WAS A SURPRISING** number of sports car racing fans at the Trenton (N.J.) Speedway for the opening USAC 1958 championship race March 30th. They had come because rumors had been rampant that several of the major European race drivers — specifically Fangio, Peter Collins and Phil Hill—would be competing against a top field of Indy-car drivers.

Fangio always wanted to drive an American racing car, but demurred only because he had business commitments back in Argentina in a few days. A meeting with Trenton Speedway manager, Sam Nunis, and Chris Economaki, editor of *National Speed Sport News*, finally convinced Fangio he should try—but with the

condition the try-out be a secret one.

Nunis quickly enlisted the help of Art Lathrop and Tom Binford, owners of the D.A. Lubricant Specials, and two days later the championship car (body, suspension and some aspects of engine tune differing from those of a brickyard roadster) and its mechanic, Roy Sherman, were flown over to Trenton from Indianapolis. The race-acute news reporters of that city had quickly learned where the car was being sent and for whom. As a result, when Fangio and Johnny Thomson, regular pilot for the D.A. Lubricant car, arrived at the Trenton track shortly after noon on a cold, clear, blustery early March day, they found perhaps 150 news and cameramen and at least that many teen-age truant Fangio and Thomson fans.

Fangio didn't seem unduly upset about the news leak, but he was disappointed to



find that the car was a "championship" machine, designed for tracks like Trenton, not the Indy roadster he had expected.

He tested it anyway. First Thomson (who had set the still-existing Trenton track record of 35.21 seconds in that same car during a championship race last fall) made several warm-up laps, then came into the pits, looking about as cold as a man can look, to tell Fangio that (1) the carburetion was badly adjusted which resulted in a slightly delayed power response to the accelerator, (2) that a substantial amount of sand had been blown back onto the track since it was swept away that morning, enough of it in the second turn to make it particularly treacherous, and (3) that the 45-mile-an-hour wind hit the car at an especially dangerous angle, tending to make it almost uncontrollable just at the exit of that same No. 2 corner.

Fangio expressed some concern over the reversal of the brake and accelerator positions from those he was accustomed to—worrisome to him primarily because an old accident had left one of his legs weakened. An old friend of his, Gianni Dotto, ex-chief of the Alfa-Romeo racing team (on which Fangio had won his first world championship) and now chief engineer for the Dayton Steel Foundry Co., had come along to act as interpreter for Fangio, who speaks no English. Dotto translated Fangio's words: "I won't be able to go too fast," and then the five-time world champion crunched down into the too-small seat of the car and ran off about six laps, all around 39-40 seconds—as compared

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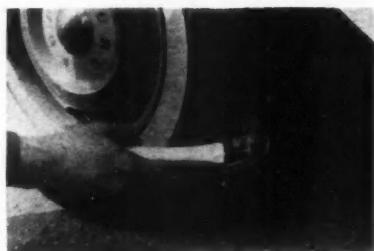
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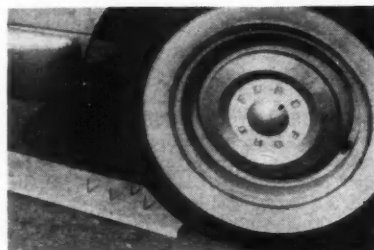
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**INJECTING** Security Auto Tire Safety Seal into tires requires air pressure.



**TESTS INCLUDED** pounding spike into our car's well-treaded tubeless tire.



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—James E. Potter

## MOTOR SPORTS

continued from page 81

Lotus contingent, which pushed forward now to attack the overall position of the Ferrari coupes.

Even so the strain was still there, and at 7:30 the Hawthorn/Trips team Ferrari dropped its propeller shaft and retired. Shortly thereafter the von Neumann Ferrari lost its power train and left the lists, after a beautiful performance in the charge of both its drivers.

Linge, in the Porsche Carrera, kept charging up to challenge the number two GT Ferrari, but von Hannstein signalled him to slow down each time around. It would have been nice to knock off the three-liter car, and it was within reach, but von Hannstein decided a third place and first in class was better than no place at all, and some silly failure of a small part could wreck the show.

The Lotus had sewed up the second and third spots on Index, behind the elegant little Osca, while the two lead Ferraris and the 1600 Porsche followed with almost identical handicap standings.

And so another Sebring went down in the books. Records fell again as Moss set the course lap at 3:20 flat (93 mph) (against 3:24.5 for last year) and the winning Ferrari of Peter Collins and Phil Hill traveled 200 laps, as against 197 for the Fangio-Behra Maserati of 1957. This is a distance of 1040 miles at an average of 86.7 mph. The 1600cc Porsche which placed third (193 laps) would have been third as well in last year's race, but it would have won every previous Sebring.

By an odd coincidence, the first three places at Sebring were exactly the same as those at Argentina, the year's first international sports car race. And to make it still more curious, Sebring's G.T. results read the same. "Ferrari, Ferrari, Porsche" seems to be some sort of rut. Thus Ferrari stands well ahead of the field in 1958's sports car championship. But don't discount the Aston Martins—they could still come from behind.

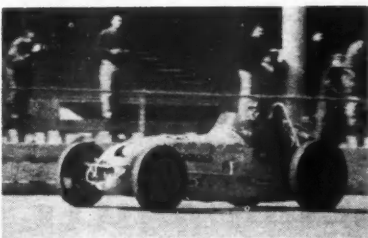
**THERE WAS A SURPRISING** number of sports car racing fans at the Trenton (N.J.) Speedway for the opening USAC 1958 championship race March 30th. They had come because rumors had been rampant that several of the major European race drivers — specifically Fangio, Peter Collins and Phil Hill—would be competing against a top field of Indy-car drivers.

Fangio always wanted to drive an American racing car, but demurred only because he had business commitments back in Argentina in a few days. A meeting with Trenton Speedway manager, Sam Nunis, and Chris Economaki, editor of *National Speed Sport News*, finally convinced Fangio he should try—but with the

condition the try-out be a secret one.

Nunis quickly enlisted the help of Art Lathrop and Tom Binford, owners of the D.A. Lubricant Specials, and two days later the championship car (body, suspension and some aspects of engine tune differing from those of a brickyard roadster) and its mechanic, Roy Sherman, were flown over to Trenton from Indianapolis. The race-acute news reporters of that city had quickly learned where the car was being sent and for whom. As a result, when Fangio and Johnny Thomson, regular pilot for the D.A. Lubricant car, arrived at the Trenton track shortly after noon on a cold, clear, blustery early March day, they found perhaps 150 news and cameramen and at least that many teen-age truant Fangio and Thomson fans.

Fangio didn't seem unduly upset about the news leak, but he was disappointed to



find that the car was a "championship" machine, designed for tracks like Trenton, not the Indy roadster he had expected.

He tested it anyway. First Thomson (who had set the still-existing Trenton track record of 35.21 seconds in that same car during a championship race last fall) made several warm-up laps, then came into the pits, looking about as cold as a man can look, to tell Fangio that (1) the carburetion was badly adjusted which resulted in a slightly delayed power response to the accelerator, (2) that a substantial amount of sand had been blown back onto the track since it was swept away that morning, enough of it in the second turn to make it particularly treacherous, and (3) that the 45-mile-an-hour wind hit the car at an especially dangerous angle, tending to make it almost uncontrollable just at the exit of that same No. 2 corner.

Fangio expressed some concern over the reversal of the brake and accelerator positions from those he was accustomed to—worrisome to him primarily because an old accident had left one of his legs weakened. An old friend of his, Gianni Dotto, ex-chief of the Alfa-Romeo racing team (on which Fangio had won his first world championship) and now chief engineer for the Dayton Steel Foundry Co., had come along to act as interpreter for Fangio, who speaks no English. Dotto translated Fangio's words: "I won't be able to go too fast," and then the five-time world champion scrunched down into the too-small seat of the car and ran off about six laps, all around 39-40 seconds—as compared

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## MOTOR SPORTS

continued

to Thomson's warm-up laps of around 45.

The Argentinian then came back into the pits to ask if there wasn't some way to make the seat belt fasten, as he was sliding forward in the seat four or five inches each time he braked. (Fangio is substantially larger in girth than little Johnny Thomson for whom the car was set up!) But no one had brought the needed tools to the track so there was no way to remedy the situation. Without any fuss at all, Fangio went back out for another 15 laps or so, knocking off about a half-second a lap until his times were consistently below 38 seconds per lap.

Finally, in spite of the handicaps of the raw, powerful and gusty wind, erratic power response, his inability to stay in the seat and the unaccustomed location of controls, he put in a sizzling lap of 36.98 seconds—only 1.77 seconds slower than Thomson's absolute record in the same car.

Fangio was then quite enthusiastic about the car. Some of the frantically and sometimes clumsily interpreted conversation after the trials was delightful. Fangio had translated to Thomson an apology for not going faster, to which Thomson grinned and had translated back, "If you'd gone any faster you'd have lost me my job!" which amused Fangio equally. Thomson then spent some minutes trying to get the proper degree of intensity into the translation of his statement—"Tell him I said that he won't have *any*—I mean he won't have *ANY* trouble at Indianapolis!" and Fangio got the idea and was pleased.

**AS FOR FANGIO AND THE 500**—by the time that you read this, it is very likely that he will already have qualified for the Indianapolis 500. Although negotiations are being made in quite well-kept secrecy now, it is already known that arrangements are much nearer completion than ever before for the world champion to compete in the only major race in the world in which he has never run. The Dayton Steel Foundry Co. not only has Fangio's good friend, Gianni Dotto, as their new chief engineer; the Walther brothers who own the company also happen to own an Indy car—the 1957 roadster Mike Magill raced last year.

—D. M. Bartley

**MOBILGAS ECONOMY RUN WINNERS**, 298 miles from the finish in Galveston, Tex. appear to be: Imperial Crown (Mel Alsbury, Jr.) at over 63 ton mpg; Chrysler New Yorker (George Alsbury) at close to 59 ton mpg; and Lincoln Continental (Danny Eames) at over 56 ton mpg. The amazing thing is that with the average mpg running 18.91 the Imperial is getting 20.75, and the New Yorker has *top mileage* of 21.15! The big competition centers in the low-price field where Mary Davis (Plymouth) leads with 48.94 ton mpg and 20.30 mpg over Pierce Venable (a duplicate Belvedere) with 48.81 and 20.21.

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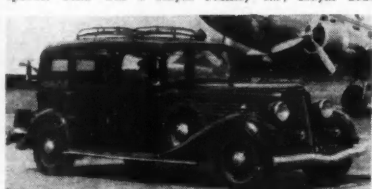
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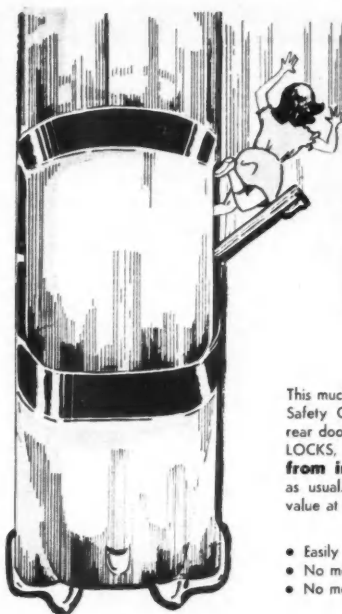
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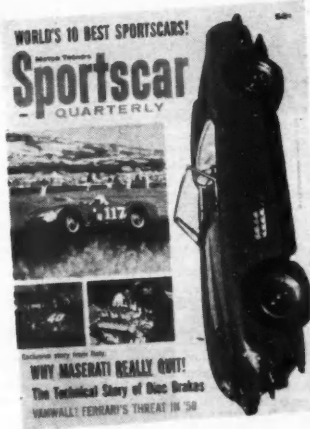
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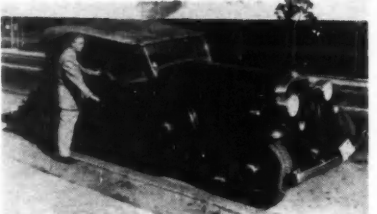
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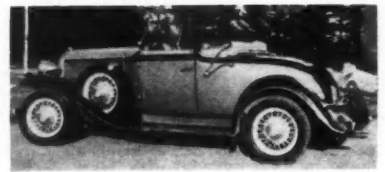
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A RARE ONE—Owens-Magnetic chassis; complete, less tires. Stored since 1924. Best offer over \$250. Also some Model T parts & "Rajo" head. H. W. Wattenberg, 7626 W. 61st St., Merriam, Kan.

'55 "COMFO-AIR" air conditioner. Compressor driven off fan or crankshaft. Electrically controlled clutch, cooler in trunk. 2 blowers, 6-volt motors. \$125. Edward G. Haupricht, 4330 Hill Ave., Toledo 7, Ohio.

SIX-VOLT STARTER & solenoid to fit '55-'58 Chevrolet V8—\$25. Saves buying 12-volt equip't. when installing in earlier models. B. Ledbetter, 1015 W. 17th St., Texarkana, Tex.

CORVETTE PARTS: Heads—\$25 set, used camshaft—\$10, new alum. valve covers—\$10 set. 50% money order, balance C.O.D. All inquiries answered. B. Ledbetter, 1015 W. 17th St., Texarkana, Tex.

'56 CHRYSLER Firepower engine, complete with carburetor, manifolds, starter, generator, distributor & water pump. Exc. \$495 f.o.b. Spokane. D. S. Hopkins, 1201 Old National Bank Bldg., Spokane 1, Wash.

1000 BOOKS on Classic & Antique Cars. Automobile Engineering, Motor Racing; Owners Handbooks & Factory Shop Manuals. Catalog 25c. Vivian Gray, The Motorist's Bookseller, Hursipointer, Sussex, England.

'48 LINCOLN CONTINENTAL V-12 hdp. Orig. cond.; black finish. \$850. Arthur F. Lamarre Jr., 250 Harrison St., Pawtucket, R. I.

CROSLY RACING PARTS—new & used. Include 14 heavy steel cranks, 42 flat-top blocks with turbulators. Satisfaction or money back. Write for list. J. K. Stillwell, 44 S. 12th St., Minneapolis, Minn.

'41 LINCOLN CONTINENTAL hdp., with '51 V8 engine, '47 rear fenders. Body very well restored; new Gillette w.w.s. Exc. mech. cond., improved suspension. \$1350. Dr. R. W. Litwiler, Mt. Morris, Ill. Phone 222.

'18 BUICK—weatherbeaten, but suitable for parts. Engine runs. Best offer. WANT '30-'36 Auburn dual-speed differential—complete with wheels & U-joints. Roy D. Eykamp, Lake Preston, S. D.

'31 AUBURN conv. cpe. in running cond. 6 wire wheels; body & top good. \$375. James R. Johnson, Ellington, Mo.

'33 AUBURN 4-dr. sed. Engine, transmission & rear rebuilt; new w.w.s. Body very good; needs uph. & paint. Make offer. A. L. Nichols, 300 S. Harrison St., Easton, Md.

AUTOMOBILE CATALOGS—orig. & genuine—old American & foreign. Send 25c for list. James M. Carpenter, 9 Lindworth Lane, St. Louis 17, Mo.

'40 FORD 4-dr. sed. Completely orig. inside & out. dark blue orig. paint; immac. cond. 25,000 orig. mi. \$600 or best offer. Alfred J. Antonucci, 39 Deerfield Ave., Hartford 12, Conn. Phone JA 5-2870.

'46 LINCOLN CONTINENTAL hdp. cpe. in 100% orig. cond. Beautiful green finish, w.w.s. 48,000 mi. burns no oil; no rust. Overdrive. \$1650 or best offer. Malcolm J. McLeod, 2020 Kenmore Rd., Grosse Pointe Woods, Mich. Phone TU 2-9597.

FOR CADILLAC BLOCK—Chet Herbert roller cam kit; dual-quad Detroit racing manifold, complete; Sata 4-speed gearbox. Sell any item 1/2-cost. Seminole Garage, Inc., 112-01 Queens Blvd., Forest Hills, N.Y.

NEW PARTS for '40-'48 Lincoln & Lincoln Continental. Also many V-12 engine parts—pistons \$12 set, rings \$1-55, Ford & Mercury rings \$1. No list—please state needs. C. B. Hall, 852 N. Crestway, Wichita 6, Kan.

JUDSON SUPERCHARGER for VW. Good cond.

—10,000 mi. \$75. John Klosterman, Unit 2. Apt. 218, Henderson, Nev.  
 '58 OPEL "Caravan" station wagon. Brand-new, never driven, just arrived from Hamburg. Save \$150. Will deliver anywhere in Middle West for only \$75. Alton Walker, Box 65, Pebble Beach, Calif. Phone MA 4-6658.  
**PRESIDENTIAL LIMOUSINE**—handmade for White House. Bulletproof glass, 3/8-in. aluminum armorplate, gold-plated appointments. Exc. cond.; orig. cost \$34,000. Make cash offer. O. B. Bucher, Jr., 707 Wallace Dr., Falls Church, Va.  
 '36 CADILLAC 7535 limousine—complete car or parts. Also: front axle & rear end, '26 Cad; fuel, oil, ammeter gauge comb., '22 Cad; Vertex magneto, '49 Cad. Bob Glaspey, 3110 River Rd., Yakima, Wash.  
 '41 BUICK 165-hp Limited limousine. Dark blue, with classic lines. 30,000 actual mi., always garaged & well maintained; no rust. Undercoated, needs no work or restoring. \$675. H. W. Van Dyke, 3803 N. 81st St., Milwaukee 16, Wis. Phone HO 3-3839.  
 '41 PACKARD 160 conv. sed. Complete & orig., with sidemounts, factory r & h. Exc. for restoring. \$595. Wayne Wallick, 6823 W. 71st Terr., Overland Park, Kan.  
**NEW ORIG. REAR FENDERS** for '49 DeSoto & '49 Dodge (except Right). Right or left—\$10 ea., f.o.b. Send check with order. Satisfaction guaranteed—limited supply. Harry W. Myers, P.O. Box 32, Bloomsburg, Pa.  
**THE CARS OF 1923**—a history of all U.S. & Canadian cars built that calendar yr. 119 pages, more than 150 drawings. \$3. Keith Marvin, c/o The Record Newspapers, Troy, N.Y.

### SELL OR SWAP

'36 ROLLS-ROYCE sed.—a real classic. Orig. cond., r & h; formerly owned by Queen's cousin. Driven daily; 85,000 actual mi. Sacrifice for \$1750 or



swap for late model station wagon. Complete history & pix on request. Arthur D. File, 2151 W. Cabot Ave., Merced, Calif.

'41 LINCOLN CONTINENTAL conv. Dark green, tan top. '51 Ford V8 block, 4-barrel carb, Mallory distributor, Columbia rear. \$1600 or trade for '56 Chrysler station wagon or Thunderbird. D. L. Corlene, 220 Snowden Lane, Princeton, N.J.

'50 BUICK Super Estate Wagon. Family car, orig. thruout; 62,000 mi., engine, body exc. Sell or trade for post-war Lincoln Continental in similar cond. W. E. Hammond, Earlville, N.Y.

'24 MODEL T 3-dr. touring. New paint, top, uph., except lower cushions. Orig. floormat. 25,000 orig. mi. Sell or trade. Marion R. Miller, R.F.D. #1, Seward, Kan.

'30 STUTZ ENGINE & chassis. Complete Model M ohv 8, 4-speed gearbox & wire wheels. Also Ryan headlights. Make offer, or swap for pick-up. George Anderson, 7 Greenbrook Rd., Middlesex, N.J.

'48 MG-TC. Good mech. cond.; in storage for several yrs. Open to offers, or might trade for outboard runabout or small cruiser of equal value. A. M. Cloutier, 359 M. C. Rd., La Crosse, Wis.

'36 PACKARD cabriolet, custom-built on Duesenberg-Mercedes lines. See "Mystery Packard," Nov. '56 MT. Fine condition, entirely renovated. Make offer, or trade for Jeep station wagon. Sam Arner, 68-615 Broadway, Cathedral City, Calif. Phone FA 8-3251.

### WANTED

NEW TUCKER ENGINE—complete. J. Woytowich, 78 Rutgers St., Belleville, N.J.

COMPLETE DYNAMOMETER or power absorption unit to handle 200-300 hp. Must be reasonable. Taylor or Clayton preferred. Jim Townsend, 2545 Proctor St., Port Arthur, Tex.

PLAYBOY motor car. Must have o.d. Write description & price. H. E. Stevens, Avalon Theatre, Lawrenceville, Ill.

TWO REAR AXLES, ring & pinion, spider gears, transmission gears—for '29 Buick cabriolet 116-in. series. List price & cond. Neil F. McGill, 17107-B Biddle St., Oceanside, Calif.

OBsolete wide 7.10 x 15 4-ply Goodyear white-wall tires. Must be new. Give price & quantity in list letter. Harold H. Schilling, 950 Madison St., Jackson, Miss.

BODY PARTS for '38 Graham—right & left front fenders, grille & rear bumper. D. P. Eckel, 1311 Luzerne Ext., Johnstown, Pa.

MOTOR (N.Y.) Annual Show Numbers—1920 thru '40. Catalogs, folders, brochures & manuals of classics. Top prices paid for complete collections or individual items. Sheldon J. Lewis, 61-33 213th St., Bayside, L.I., N.Y.

DESPERATELY NEED distributor cap (Northwest) for '34 Packard Super 8, Engine No. 753523. W. E. Hammond, Earlville, N.Y.



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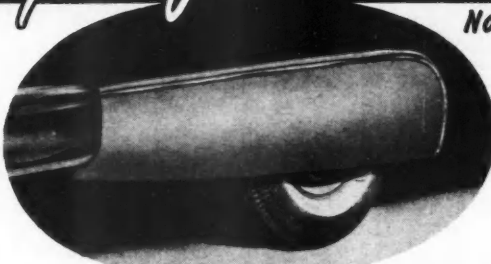
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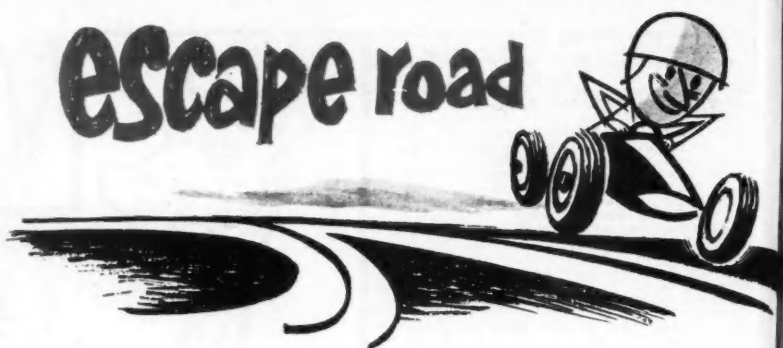
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# escape road



**NOT CHEAPER BY THE DOZEN.** A reporter rushing to cover an event could find only a 12-minute-limit parking spot. Fearful of being late, he parked in the 12-minute zone and left a note explaining his plight to any passing officer. Upon his return two hours later, he found a ticket and this note: "When you park in a 12-minute space, cover only a 12-minute event."



WIDE WORLD

**"Hold her, Newt! She's a-rearin'!"**

The horizon suddenly dropped out of sight for this driver when his five-ton load of lead shifted to the back of the truck and see-sawed the front end up into the air. (*Obvious solution: get the lead out!*)

**WHY IS IT** that horsepower seemed to be so much safer when only horses had it? (*Guess it was the horse sense that went with it.*)

**IT'S FUNNY** how a woman who can spot a blonde hair on your coat at 10 paces can't see a pair of garage doors. (*Try blonde doors?*)

**REPORT FROM ENGLAND:** Corvettes are running around with stickers saying, "Made in Michigan by Colonials." (*A likely Tory!*)



Portrait of a man who doesn't worry about brake fade. He's got a sure system for stopping—no matter what!

"I did a clean-and-wax job in 55 minutes

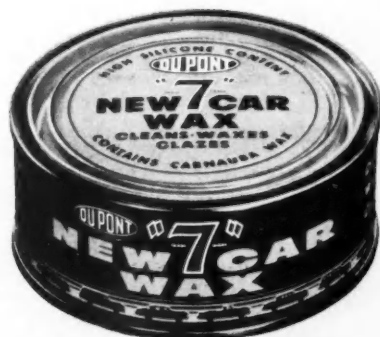


with Du Pont's **NEW CAR WAX**



... 6 months later it's still mirror-bright"

says **George T. Duffin** of Los Altos, Calif., after waxing his '57 Chevrolet with Du Pont New Car Wax. George found that this new paste wax is as easy to use as a liquid polish, because it cleans, waxes and glazes—all in *one easy application*. And it protects with real Carnauba wax, *the toughest wax known*. Proof of protection is the long-lasting gleam. Six months, 11 car washings later, the finish still shows clear reflections of George and his wife! Try Du Pont New Car Wax—it makes any good finish look new. At service stations and auto supply stores. Only \$2.00.



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